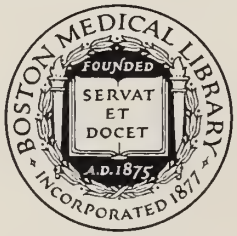
BOSTON
MEDICAL LIBRARY



IN THE
Francis A. Countway
Library of Medicine
BOSTON

Digitized by the Internet Archive
in 2017 with funding from
The National Endowment for the Humanities and the Arcadia Fund

https://archive.org/details/virginiamedicalm9416medi

DISPLAY
SINCE

VIRGINIA MEDICAL MONTHLY

when it counts...
Chloromycetin®
(chloramphenicol)

PARKE-DAVIS

PARKE, DAVIS & COMPANY, Detroit, Michigan 48232

Complete information for usage
available to physicians upon request.

01366

to help restore
and stabilize the
intestinal flora

LACTINEX®

TABLETS & GRANULES

for fever blisters
and canker sores
of herpetic origin

LACTINEX contains a standardized viable mixed culture of *Lactobacillus acidophilus* and *L. bulgaricus* with the naturally occurring metabolic products produced by these organisms.

LACTINEX was introduced to help restore the flora of the intestinal tract in infants and adults.[1,2,3,4]

LACTINEX has also been shown to be useful in the treatment of fever blisters and canker sores of herpetic origin.[5,6,7,8]

No untoward side effects have been reported to date.

Literature on indications and dosage available on request.

HYNSON, WESTCOTT & DUNNING, INC.

HW&D BALTIMORE, MARYLAND 21201

(LX03)

References: (1) Siver, R. H.: CMD, *21*:109, September 1954. (2) Frykman, H. H.: Minn. Med., *38*:19-27, January 1955. (3) McGivney, J.: Tex. State Jour. Med., *51*:16-18, January 1955. (4) Quehl, T. M.: Jour. of Florida Acad. Gen. Prac., *15*:15-16, October 1965. (5) Weekes, D. J.: N.Y. State Jour. Med., *58*:2672-2673, August 1958. (6) Weekes, D. J.: EENT Digest, *25*:47-59, December 1963. (7) Abbott, P. L.: Jour. Oral Surg., Anes., & Hosp. Dental Serv., 310-312, July 1961. (8) Rapoport, L. and Levine, W. I.: Oral Surg., Oral Med. & Oral Path., *20*:591-593, November 1965.

LX

VIRGINIA MEDICAL MONTHLY

(Founded by Landon B. Edwards, M.D., April, 1874)

PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF VIRGINIA

4205 DOVER ROAD, RICHMOND, VIRGINIA 23221

EDITORIAL BOARD

HARRY J. WARTHEN, M.D.
Chairman and Editor

H. LAMONT PUGH, M.D.
Vice Chairman

C. V. CIMMINO, M.D.

CHARLES E. DAVIS, JR., M.D.

J. SHELTON HORSLEY, III, M.D.

GORDON W. JONES, M.D.

WILLIAM H. KAUFMAN, M.D.

JOHN A. MARTIN, M.D.

ROBERT MITCHELL, JR., M.D.

JAMES M. MOSS, M.D.

W. T. THOMPSON, JR., M.D.

E. SPENCER WATKINS
Managing Editor
4205 Dover Road
Richmond, Virginia 23221

Annual Subscription—$2.00
Single Copies—25¢

TABLE OF CONTENTS

GUEST EDITORIAL
Henry Bearden Mulholland, M.D.—*Edgar J. Fisher, Jr.* 1

ORIGINAL ARTICLES
Secondary Operations Upon the Stomach After Gastric Resection for Duodenal Ulcer—*Claude E. Welch, M.D.* 3
Subacute Bacterial Endocarditis Due to Streptococcus Fecalis (Enterococcus)—*Frank E. Taylor, M.D.* 11
Alcohol, Automobiles and the Law—*James C. Andrews, M.D.* 16
The Medical History of Jefferson Davis—*Frederic W. Gray, M.D.*, and *Chester D. Bradley, M.D.* 19
The Postpericardiotomy Syndrome Following Blunt Trauma to the Chest—*Herbert M. Brewer, M.D.*, and *Donald W. Dickhaus, M.D.* 24

CLINICOPATHOLOGICAL CONFERENCE
Giant Gastric Ulcer in a 65 Year Old Male 28

MENTAL HEALTH
Mental Hygiene Clinic Activities—*Edna M. Lantz* 38

DIAGNOSTIC LABORATORY MEDICINE
Nonspecific Urethritis—*Olga Pestana, M.D.* 40

PUBLIC HEALTH
Planning New Medical Programs—Regional Medical Programs 43

THE MEDICAL SOCIETY OF VIRGINIA
Minutes of Annual Meeting 46

PRESIDENT'S MESSAGE 63

EDITORIAL
Dentists and the Medico-Dental Team—*H. Lamont Pugh, M.D.* 64
LIFE Marches On—*Harry J. Warthen, M.D.* 67

NEWS 69

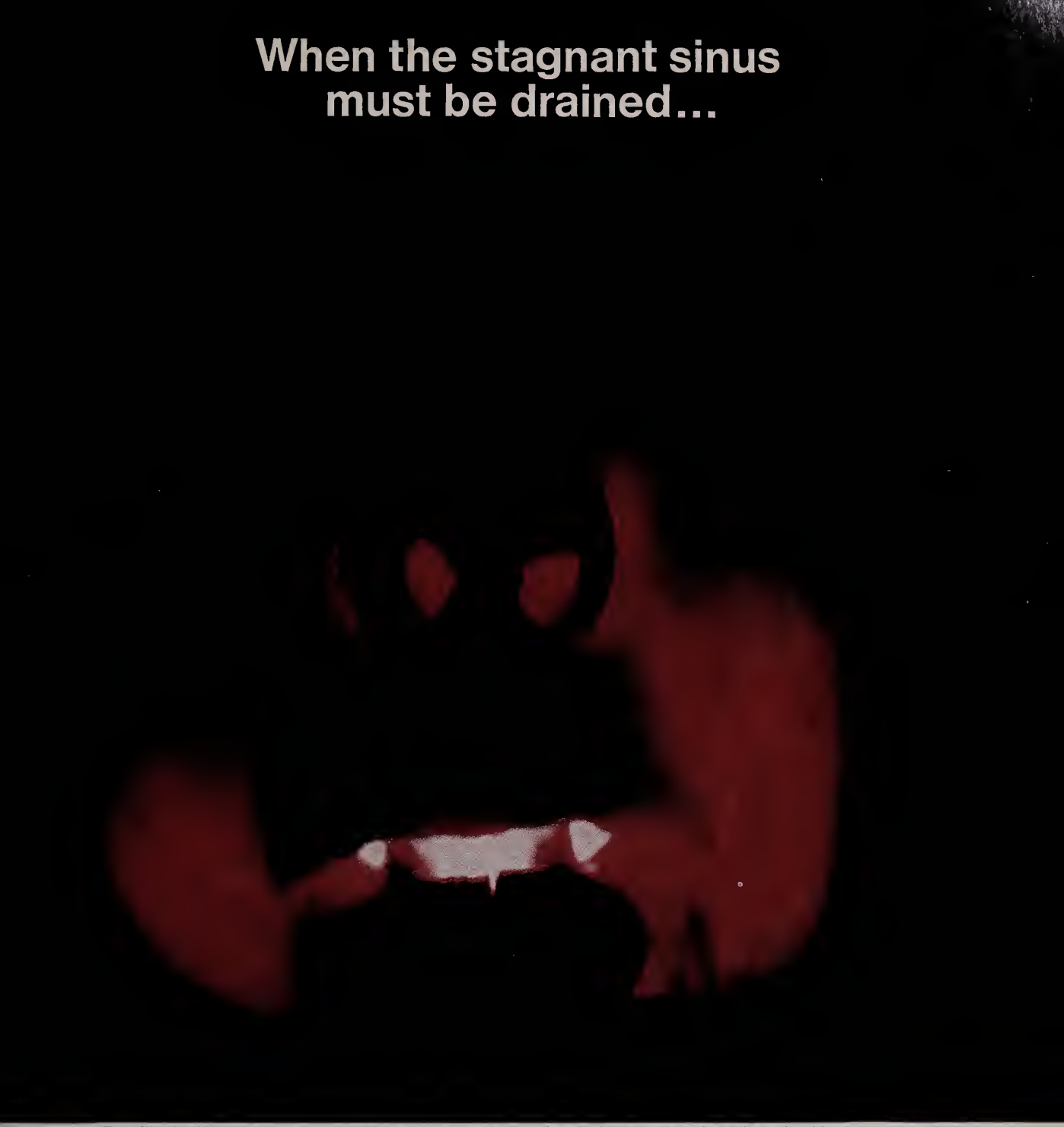
OBITUARIES 72

The MONTHLY is not responsible for the opinions and statements of its contributors.
All advertisements are accepted subject to the approval of the Editorial Board.

Second Class Postage paid at Richmond, Virginia.

INDEX TO ADVERTISERS—Page 72

When the stagnant sinus must be drained...



Transillumination of the sinuses – diffuse shadow on right side of face indicates unilateral maxillary sinusitis.

In the common cold, Neo-Synephrine is unsurpassed for reducing nasal turgescence. It stops the stuffy feeling at once. It opens sinus ostia to re-establish drainage and lessen the chance of sinusitis. With Neo-Synephrine, in the concentrations most commonly used, decongestion lasts long enough for extended breathing comfort, without endangering delicate respiratory tissue. Systemic side effects are virtually unknown. There is little rebound tendency.

Winthrop Laboratories, New York, N.Y. 10016 Winthrop

Neo-Synephrine® HCl

Brand of phenylephrine hydrochloride

is available in a variety of forms, for all ages:

- 1/8% solution for infants
- 1/4% solution for children and adults
- 1/4% pediatric nasal spray for children
- 1/2% solution for adults
- 1/2% nasal spray for adults
- 1/2% jelly for children and adults
- 1% solution for adults (resistant cases)

Also NTZ® Solution or Spray
Antihistamine-decongestant

(1025M)

OFFICERS AND COUNCILORS OF THE MEDICAL SOCIETY OF VIRGINIA 1966-67

President—K. K. Wallace, M.D., Norfolk
President-Elect—Thomas W. Murrell, Jr., M.D., Richmond
Past-President—Alexander McCausland, M.D., Roanoke
Vice-Presidents—Hugh G. Stokes, M.D., Williamsburg
Francis H. McGovern, M.D., Danville
James M. Moss, M.D., Alexandria
Executive Secretary-Treasurer—Robert I. Howard, Richmond
Speaker of the House—W. Callier Salley, M.D., Norfolk
Vice-Speaker—Thomas S. Edwards, M.D., Charlottesville

COUNCILORS

F. Ashton Carmines, M.D., Newport News
William S. Hotchkiss, M.D., Norfolk
William R. Hill, M.D., Richmond
A. Tyree Finch, M.D., Farmville
W. Nash Thompson, M.D., Stuart
Harry B. Stone, M.D., Roanoke
Dennis P. McCarty, M.D., Front Royal
W. D. Liddle, M.D., Fredericksburg
W. W. Walton, M.D., Pulaski
Carl P. Parker, M.D., Falls Church

DELEGATES AND ALTERNATES TO THE AMERICAN MEDICAL ASSOCIATION

Delegates
1966-67
W. Linwood Ball, M.D., Richmond
Allen Barker, M.D., Roanoke

1967-68
W. Callier Salley, M.D., Norfolk

Alternates
1966-67
Alexander McCausland, M.D., Roanoke
Russell Buxton, M.D., Newport News

1967-68
Richard E. Palmer, M.D., Alexandria

REPRINT PRICES OF ARTICLES IN THE VIRGINIA MEDICAL MONTHLY

Trim Size: 8 x 11 inches

No. of copies	100	200	250	500	750	1000	1500	2000
1 page	$8.30	$8.90	$9.20	$10.70	$12.20	$13.70	$16.70	$19.70
2 Pages	9.45	10.20	10.60	12.45	14.35	16.20	19.95	23.70
4 Pages	19.85	21.70	22.65	27.25	31.88	36.50	45.75	55.00
8 Pages	47.87	50.15	51.30	57.00	62.70	68.40	79.80	91.20
12 Pages	77.90	82.65	85.05	96.90	108.80	120.65	144.40	168.15
16 Pages	95.74	100.30	102.60	114.00	125.40	136.80	159.60	182.40
Cover	15.20	18.65	20.40	29.00	37.45	46.25	73.50	80.75
Envelope—blank	2.80	5.60	7.00	14.00	21.00	28.00	42.00	56.00
Envelope—printed	7.98	11.16	12.70	20.70	28.60	36.60	52.50	68.40

PRICES F.O.B. RICHMOND, VA.

Orders must be placed before type is distributed.

THE WILLIAMS PRINTING CO.

11-13-15 North 14th Street **Richmond, Virginia 23219**

raldrate

(SYRUP OF CHLORAL HYDRATE)

A palatable chloral hydrate syrup

containing 10 grains in each teaspoonful.

J. and V.

JONES and VAUGHAN
Richmond 26, Virginia

DISABILITY INCOME INSURANCE

3 REASONS WHY

If you are disabled by sickness or accident and unable to work, your income stops.

Where do you get the money . . . .

. . **that you normally spend on food?**

. . **that you normally spend on shelter?**

. . **that it takes to maintain your office?**

There is no question how your income will continue if you enroll in the DISABILITY INCOME PLAN which is sponsored and recommended by THE MEDICAL SOCIETY OF VIRGINIA.

With these outstanding features:

✓ Benefits paid directly to you. You spend the money any way you want;

✓ This plan is yours until age 75; (Plan A or Plan B)

✓ Under Plan A—Benefits paid to age 65 for sickness—lifetime for accident.

As an example: If you were disabled at Age 50 it would be possible for you to collect $144,000.00 (15 years at $800.00 per month)—NOT 5 years. At younger ages the amount possible to collect is much greater.

Protect your earnings and ability to pay. Get complete details during the Open Enrollment Period—now in progress.

Mail to

David A. Dyer Insurance Agency
Medical Arts Building
Roanoke, Virginia 24011

Dave,

I have enough problems without having to worry about how I'll pay the rent, the grocery bills, or keep the office open if I'm disabled. Please rush to me, without obligation, all the facts on the Disability Income Program for physicians and surgeons, underwritten by Insurance Company of North America, Phila., Pa.

Name _____

Address _____
Street

_____
(City) (State) (Zip)

Underwritten by The Insurance Company of North America, Philadelphia, Pa.

when was your last check-up?

Have YOU failed to make certain that you're well protected from the high costs of accident and sickness? If so, your budget is in danger of shattering any day now.

THE MEDICAL SOCIETY OF VIRGINIA has just the thing to relieve your anxieties about possible severe financial loss from accident or sickness:

- **Professional OVERHEAD Expense** to pay those fixed office expenses for you while you can't practice . . . and keep your office open!
- **"Catastrophic" HOSPITAL-NURSE Expenses** to meet those unexpected high costs from serious accident or sickness disability!

Both Plans go to work immediately, protecting your budget with their LOW-COST, BROAD COVERAGE ingredients.

Call us today—collect. Find out why The Medical Society of Virginia has selected these sensible Insurance Plans as the best available to its Members. We'll send you more information. No obligation, of course.

(But, plenty of smart financial advice!)

ADMINISTRATOR: David A. Dyer
Medical Arts Building,
Roanoke, Virginia 24011
Phone: 344-5000

Both Plans underwritten by:

AMERICAN CASUALTY COMPANY
OF READING, PENNSYLVANIA • 19603

"All Otolaryngologists are Alike"

Just look at them and you can see how much they have in common. Besides, they all go through pretty much the same training, and pass the same kinds of tests, and measure up to the same sort of standards. Therefore, all otolaryngologists are alike. Right?

Wrong! But that's no more preposterous than what some people say about aspirin. Namely: since all aspirin is at least supposed to come up to certain required standards, then all aspirin tablets must be alike.

Bayer's standards are far more exacting. In fact, there are at least nine *specific differences* involving moisture content, purity, potency and speed of tablet disintegration, which make the manufacture of Bayer® Aspirin so different.

These Bayer standards result in significant product benefits, including gentleness to the stomach and product stability, that enable Bayer Aspirin tablets to *stay* strong and gentle until they are taken.

So next time you hear someone say that *all* aspirin tablets are alike, you can say, with confidence, that "it just isn't so."

You might also say that all otolaryngologists aren't alike, either.

The full ¼ grain of phenobarb in the formula

takes the nervous edge off the pain
...helps bring out the best in codeine

Phenaphen® with Codeine

the only leading compound analgesic that calms instead of caffeinates

Each capsule contains:
Phenobarbital (¼ gr.) ..... 16.2 mg.
(Warning: may be habit forming)
Aspirin (2½ gr.) .....162.0 mg.
Phenacetin (3 gr.) .....194.0 mg.
Hyoscyamine sulfate.....0.031 mg.
Codeine phosphate.....¼ gr. (No. 2), ½ gr. (No. 3), 1 gr. (No. 4)
(Warning: may be habit forming)

Contraindications: Hypersensitivity to any ingredient.

Precautions: As with all phenacetin-containing products, avoid excessive or prolonged use.

Side Effects: Side effects are uncommon—nausea, constipation, and drowsiness have been reported.

A·H·ROBINS

A. H. ROBINS CO., INC., Richmond, Va. 23220

Against these three major pathogens...

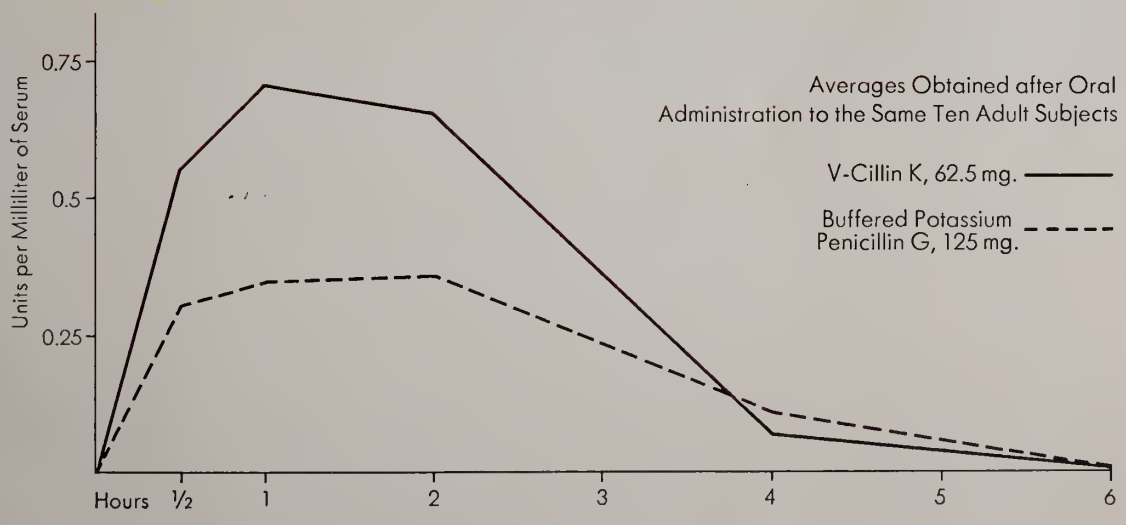
V-Cillin K® provides unexcelled oral antibacterial activity

because it combines a high degree of in-vitro activity...

Antibiotic	Staph. Aureus (Penicillin-Sensitive) MIC (mcg./ml.) Median	Range	Streptococcus, Group A MIC (mcg./ml.) Median	Range	Diplococcus Pneumoniae MIC (mcg./ml.) Median	Range
Penicillin V	0.02	0.02-0.04	0.02	0.003-0.4	0.01	0.005-0.2
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269 1019, 1963.

with high blood levels, even in the presence of food



Adapted from Griffith, R. S., and Black, H. R.: Current Ther. Res., 6:253, 1964.

V-Cillin K® Lilly 700157

Potassium Phenoxymethyl Penicillin

(See next page for prescribing information.

New 500 mg. tablets...a more convenient way to give high doses

Description: V-Cillin K is the potassium salt of V-Cillin® (phenoxymethyl penicillin, Lilly). This chemically improved form combines acid stability with immediate solubility and rapid absorption. Higher serum levels are obtained more rapidly with this penicillin than with equal oral doses of penicillin G. The higher serum levels and acid stability of V-Cillin K make it a more dependable penicillin for oral use.

V-Cillin K, Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed, each 5 cc. (approximately one teaspoonful) will contain 125 mg. (200,000 units) phenoxymethyl penicillin as the potassium salt.

Indications: V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

Contraindication: V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

Precautions: V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy. Reactions occur more frequently in individuals with bronchial asthma or other allergies or in those who have previously demonstrated sensitivity to penicillin. If hypersensitivity reactions occur, the drug should be discontinued.

Adverse Reactions: Although serious allergic reactions are much less common with administration of oral penicillin than with intramuscular forms, skin rash, symptoms resembling those of serum sickness, or other manifestations of penicillin allergy may occur. When penicillin is administered, measures for treating anaphylaxis should be readily available. Those include epinephrine, oxygen, and pressor drugs for relief of immediate allergic manifestations as well as antihistamines and corticosteroids for delayed effects.

The use of antimicrobial agents may be associated with the overgrowth of antibiotic-resistant organisms; in such a case, antibiotic administration should be stopped and appropriate measures taken.

Administration and Dosage: For Tablets V-Cillin K and for V-Cillin K, Pediatric, the usual dosage ranges from 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants, the daily dosage may be 50 mg. per Kg. of body weight divided into three doses.

Beta-hemolytic streptococcus infections without associated bacteremia may be treated with 200,000 to 400,000 units three times a day. Therapy should be continued for a minimum of ten days to prevent development of rheumatic fever and/or other serious complications. Dosage for routine streptococcus prophylaxis in patients with a history of rheumatic fever or congenital heart disease may be 200,000 units once or twice daily. When such patients undergo tonsillectomy, tooth extraction, or other minor surgery, the prophylactic dose should be 500,000 units every six hours given two days prior to surgery and for two days postoperatively. If oral medication is not feasible on the day of surgery, parenteral therapy should be considered. Mild to moderately severe pneumococcus pneumonia has been treated effectively with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be given every six to eight hours in conjunction with indicated surgical procedures.

For gonorrhea in males, 500 mg. (800,000 units) every six hours for three doses may be employed; in females, 500 mg. every four hours for six doses are recommended. Patients with a suspected lesion of syphilis should have a dark-field examination before receiving penicillin and monthly serologic tests for a minimum of three months.

How Supplied: Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units), in bottles of 50 and 100; 250 mg. (400,000 units), and 500 mg. (800,000 units) in bottles of 24 and 100.

V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) per 5 cc. of solution, in 40, 80, and 150-cc.-size packages.

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.

Lilly

700157

Look how many ways

Thorazine®

brand of

chlorpromazine

can help

	Tranquilizer	Potentiator	Antiemetic
Agitation	●		
Alcoholism	●		●
Anxiety	●		
Cancer patients	●	●	●
Severe neurodermatitis	●		
Drug addiction withdrawal symptoms	●		●
Emotional disturbances (moderate to severe)	●		
Nausea & vomiting	●		●
Neurological disorders	●		
Obstetrics	●	●	●
Pain	●	●	●
Pediatrics	●	●	●
Porphyria	●	●	
Psychiatric disorders	●		
Hiccups—refractory	●		
Senile agitation	●		
Surgery	●	●	●
Tetanus	●	●	

'Thorazine' is useful as a specific adjuvant in the above named conditions.

The following is a brief precautionary statement. Before prescribing, the physician should be familiar with the complete prescribing information In SK&F literature or *PDR*. *Contraindications:* Comatose states or the presence of large amounts of C.N.S. depressants. *Precautions:* Potentiation of C.N.S. depressants may occur (reduce dosage of C.N.S. depressants when used concomitantly). Antiemetic effect may mask other conditions. Possibility of drowsiness should be borne in mind for patients who drive cars, etc. In pregnancy, use only when necessary to the welfare of the patient. *Side Effects:* Occasionally transitory drowsiness; dry mouth; nasal congestion; constipation; amenorrhea; mild fever; hypotensive effects, sometimes severe with I.M. administration; epinephrine effects may be reversed; dermatological reactions; parkinsonism-like symptoms on high dosage (in rare instances, may persist); weight gain; miosis; lactation and moderate breast engorgement (in females on high dosages); and less frequently cholestatic jaundice. Side effects occurring rarely include: mydriasis; agranulocytosis; skin pigmentation, lenticular and corneal deposits (after prolonged substantial dosages).

For a comprehensive presentation of 'Thorazine' prescribing information and side effects reported with phenothiazine derivatives, please refer to SK&F literature or *PDR*.

Smith Kline & French Laboratories

Let's get
down to earth
about
diuretics

With Hygroton, you'll discover that you can almost always use fewer tablets than is possible with other diuretics.

You may be told that a new short-acting diuretic was found more effective than Hygroton in congestive heart failure—but this was when twice the manufacturer's maximum recommended dose was given.* At the maximum recommended dose for both diuretics, two tablets of Hygroton were far and away more effective than five tablets of the other diuretic in producing natruresis and weight loss. And at these dosages, Hygroton costs only ⅓ as much as the other diuretic.

Since the discovery of chlorothiazide, the trend has been away from short-acting, multiple-dose, high-cost diuretics. With Hygroton you can usually do the job with just one tablet a day, or every other day.

More than any of the newer diuretics, Hygroton brings dosage and cost of medication down to earth.

*Brest, A. N., et al.:J. New Drugs 5:329, 1965.

Hygroton®
chlorthalidone

Indications: Hypertension and many types of edema involving retention of salt and water. **Contraindications:** Hypersensitivity and most cases of severe renal or hepatic disease. **Warning:** With administration of enteric-coated potassium supplements, the possibility of small bowel lesions should be kept in mind. **Precautions:** Reduce dosage of concomitant antihypertensive agents by at least one-half. Discontinue if the BUN rises or liver dysfunction is aggravated. Electrolyte imbalance and potassium depletion may occur; take special care in cirrhosis or severe ischemic heart disease, and in patients receiving corticosteroids, ACTH, or digitalis. Salt restriction is not recommended. **Side Effects:** Dizziness, weakness, nausea, vomiting, hyperglycemia, hyperuricemia, headache, muscle cramps, postural hypotension, constipation, leukopenia, thrombocytopenia, agranulocytosis, impotence, dysuria, transient myopia, skin reactions, including urticaria and purpura, epigastric pain, or G.I. symptoms after prolonged administration. **Average Dosage:** One tablet (100 mg.) with breakfast daily or every other day. **Availability:** Tablets of 100 mg. in bottles of 100 and 1000. For full details, see the complete prescribing information. 6524-V(B)

HY-4735

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation, Ardsley, New York

Geigy

Now, now, Mrs. Forsythe, we've never lost a cold patient yet.

When she's experiencing acute discomfort from cold symptoms, it's small wonder the patient becomes distressed about her condition.

She will breathe easier when you prescribe Novahistine LP.

Novahistine LP is a long-acting decongestant that helps restore normal mucus secretion and ciliary activity—physiologic mechanisms which prevent infection of the respiratory tract. A dose of two tablets taken in the morning and repeated in the evening will usually keep air passages clear for 24 hours.

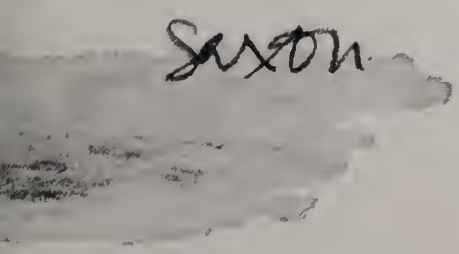
Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution patients who operate machinery or motor vehicles that drowsiness may result.

Each Novahistine LP tablet contains: phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

DOW **PITMAN-MOORE** Division of The Dow Chemical Company, Indianapolis

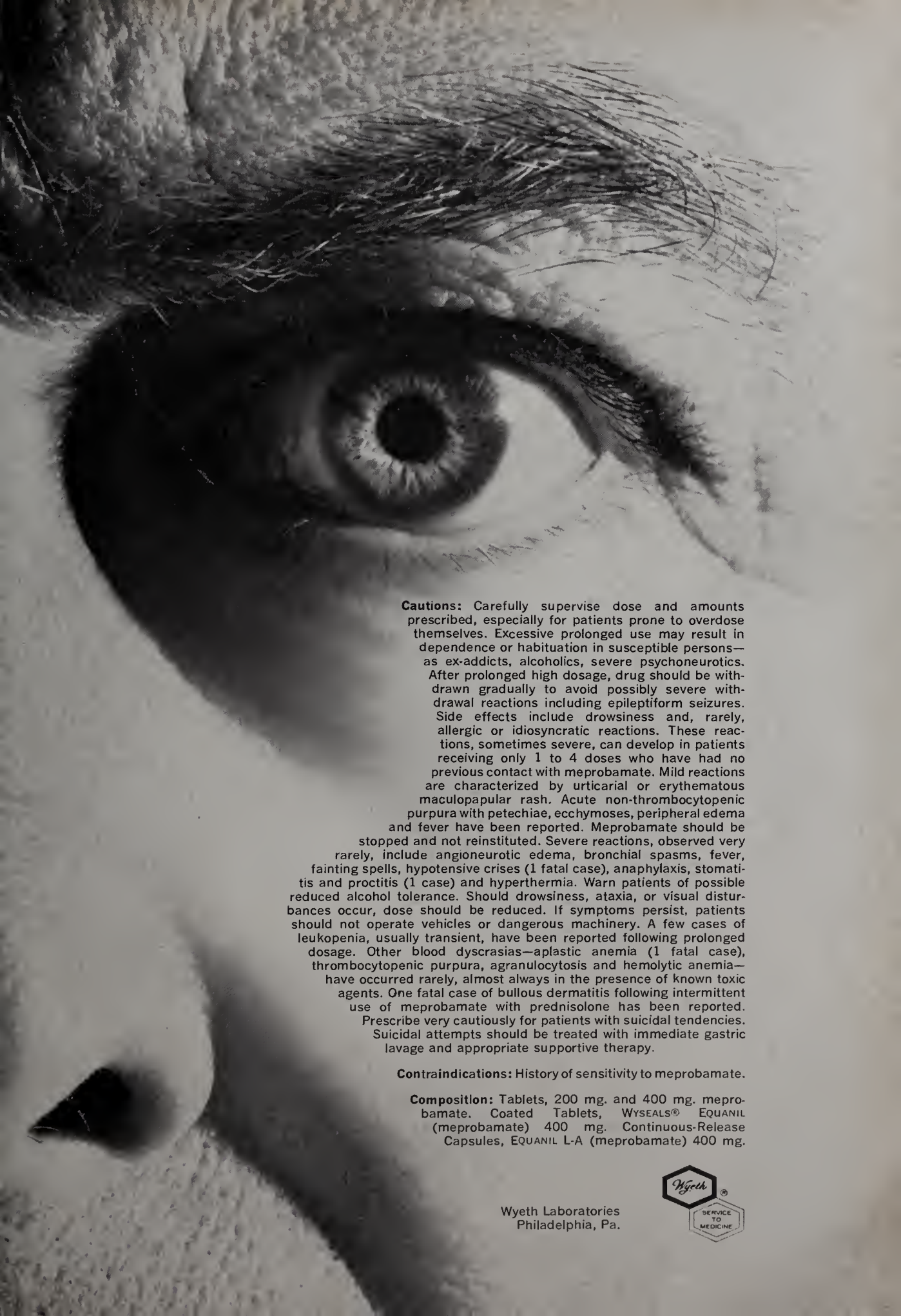
NOVAHISTINE® LP

For relief of nasal congestion.



3 a.m.

Sleep-interfering anxiety and tension can usually be relieved with EQUANIL®
(meprobamate) Wyeth



Cautions: Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use may result in dependence or habituation in susceptible persons—as ex-addicts, alcoholics, severe psychoneurotics. After prolonged high dosage, drug should be withdrawn gradually to avoid possibly severe withdrawal reactions including epileptiform seizures. Side effects include drowsiness and, rarely, allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute non-thrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. Meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Warn patients of possible reduced alcohol tolerance. Should drowsiness, ataxia, or visual disturbances occur, dose should be reduced. If symptoms persist, patients should not operate vehicles or dangerous machinery. A few cases of leukopenia, usually transient, have been reported following prolonged dosage. Other blood dyscrasias—aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia—have occurred rarely, almost always in the presence of known toxic agents. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. Prescribe very cautiously for patients with suicidal tendencies. Suicidal attempts should be treated with immediate gastric lavage and appropriate supportive therapy.

Contraindications: History of sensitivity to meprobamate.

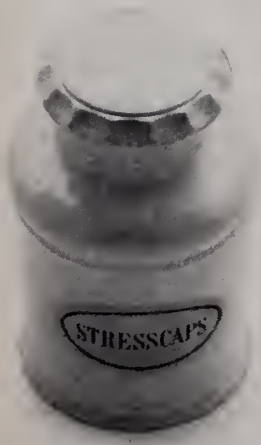
Composition: Tablets, 200 mg. and 400 mg. meprobamate. Coated Tablets, WYSEALS® EQUANIL (meprobamate) 400 mg. Continuous-Release Capsules, EQUANIL L-A (meprobamate) 400 mg.

Wyeth Laboratories
Philadelphia, Pa.

Wyeth ®
SERVICE TO MEDICINE

after surgery

B and C vitamins are therapy: Therapeutic amounts of B and C in stress formula vitamins often are vital during periods of physiologic stress. STRESSCAPS capsules, designed to meet increased metabolic demands, aid in achieving a more comfortable convalescence, a more rapid recovery. After surgery, as in many stress conditions, STRESSCAPS vitamins are therapy.



Stresscaps®

Stress Formula Vitamins Lederle

FOR PROFESSIONAL RECOMMENDATION ONLY

Each capsule contains:

Vitamin B_1 (Thiamine Mononitrate)	10 mg
Vitamin B_2 (Riboflavin)	10 mg
Vitamin B_6 (Pyridoxine HCl)	2 mg
Vitamin B_{12} Crystalline	4 mcgm
Vitamin C (Ascorbic Acid)	300 mg
Niacinamide	100 mg
Calcium Pantothenate	20 mg

Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 and 100; bottles of 500.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York Lederle

627-6—3613

"Take a laxative" is a harsh sentence

Although there are more than 60 ethical laxatives available for the constipated patient, many, unfortunately, do not really produce an effect much like a normal bowel movement. Instead they whip the bowel, torment it and leave it irritated, inflamed and exhausted.
On the other hand, Dulcolax provides a nearly normal movement. Through its unique contact action, it induces the kind of natural contraction waves of the colon necessary for gentle, complete, comfortable bowel movements.
For your next constipated patient, try Dulcolax–the laxative with the gentle touch.

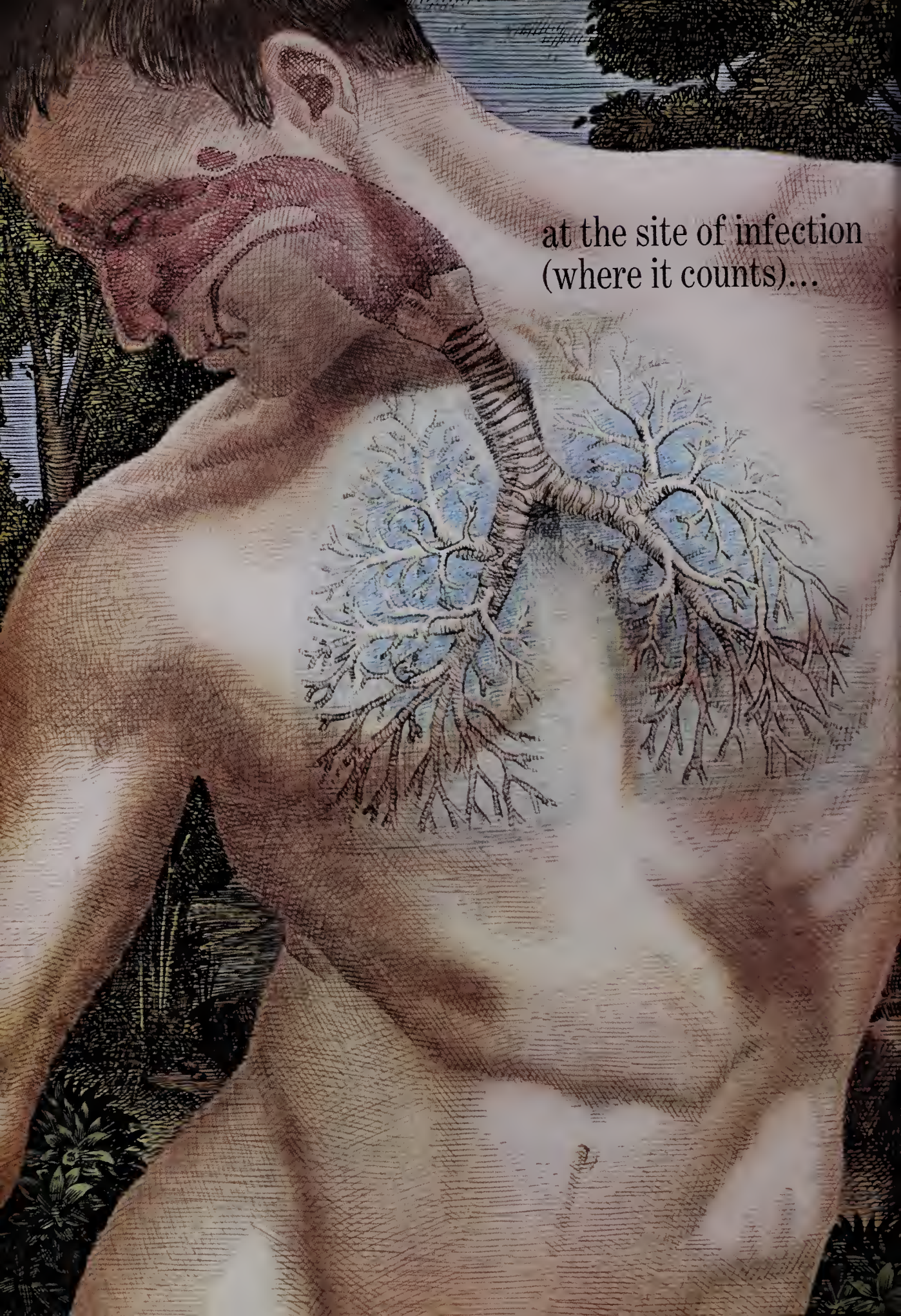
Dulcolax, brand of bisacodyl tablets (5 mg.)

Under license from Boehringer Ingelheim G.m.b.H.

Geigy Pharmaceuticals
Division of
Geigy Chemical Corporation
Ardsley, New York

Dulcolax®
a gentle persuasion

Geigy


at the site of infection
(where it counts)...

Ilosone® provides more antibacterial activity than any other oral erythromycin

Acid stable, better absorbed . . . Ilosone produces faster, higher, more prolonged blood levels, even in the presence of food[1-3]

Because it is the most active form of oral erythromycin, Ilosone can help assure consistently greater antibacterial activity at the site of infection. Ilosone produces peak antibacterial blood levels two to four times those of other erythromycin preparations.[1,2] Not only are these levels attained earlier, but they are maintained for much longer periods. Even the presence of food does not seem to affect the activity of Ilosone.[1,3]

In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

700121

Ilosone® Lilly

Erythromycin Estolate

(See next page for prescribing information.)

Ilosone®/the most active oral form of erythromycin

Description: Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

Indications: Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone.

Contraindications: Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with preexisting liver disease or dysfunction.

Side-Effects: Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have appeared in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly if the drug is readministered to sensitive patients, usually within forty-eight hours. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to be definitely related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalin flocculation and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has not been reported in other patients taking prolonged courses of the medication. Patients with chronic infection have been given 1 to 2 Gm. of the drug daily for periods of two to six months, and patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of these patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels were determined in a group of fifty-four adults and children who took 250 mg. of Ilosone daily for an average of sixteen months as rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevation of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (ten-day) courses of Ilosone in the treatment of streptococcus infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticaria, skin eruptions, and, on rare occasions, anaphylaxis.

Administration and Dosage: Ilosone is administered orally.

Ilosone Pulvules®
Ilosone Chewable Tablets
Ilosone Drops
Ilosone, 125, for Oral Suspension

For infants and for children under twenty-five pounds of body weight, the usual dosage is 5 mg. per pound every six hours; for children twenty-five to fifty pounds, 125 mg. every six hours. (Tablets Ilosone Chewable should be chewed or crushed and swallowed with water.)

For adults and for children over fifty pounds, the usual dosage of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage is 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days are recommended. In the treatment of gonorrhea, patients with a suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

How Supplied: Pulvules Ilosone, Capsules, N.F., 125 and 250 mg. (equivalent to base), in bottles of 24 and 100.

Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to base) in bottles of 50.

Ilosone Drops, 5 mg. (equivalent to base) per drop, in 10-cc. size packages, with dropper calibrated at 25 and 50 mg.

Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size packages.

References: 1. Griffith, R. S., and Black, H. R.: Am. J. M. Sc., *247*:69, 1964. 2. Griffith, R. S., and Black, H. R.: Antibiotics & Chemother., *12*:398, 1962. 3. Hirsch, H. A., Pryles, C. V., and Finland, M.: Am. J. M. Sc., *239*:198, 1960.

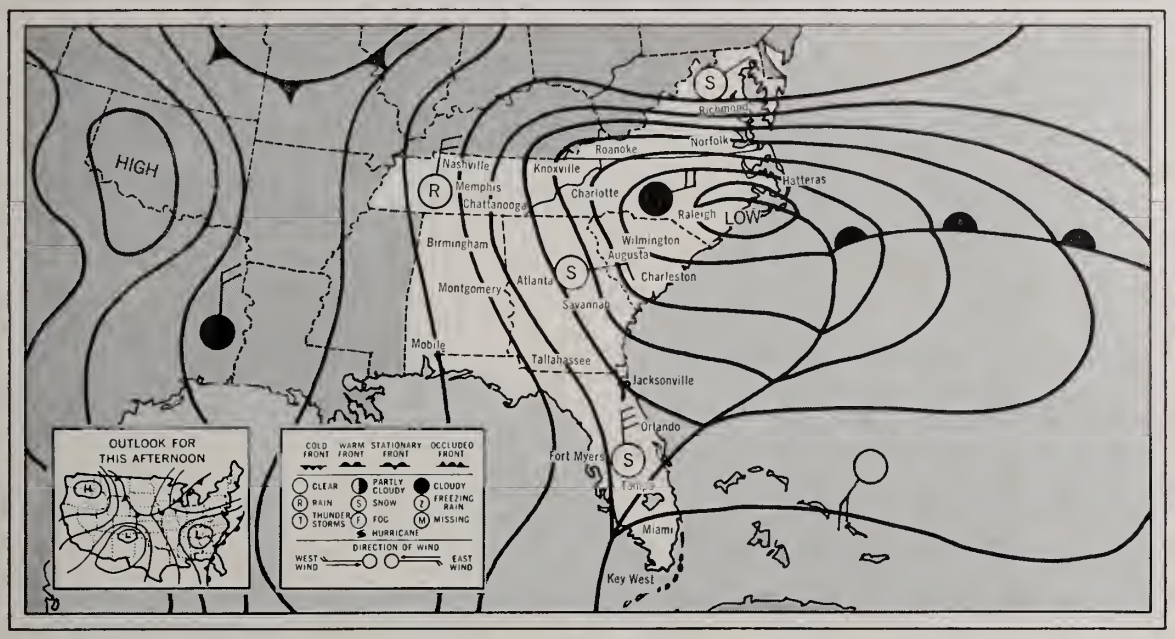
Additional information available to physicians upon request.
Eli Lilly and Company, Indianapolis, Indiana 46206.

Lilly

700123

REGIONAL WEATHER FORECAST

Record Low Temperatures and Heavy Rain Followed by Cough, Stuffed and Runny Noses and Aches and Pains.



Tussagesic breaks up coughs, quickly clears stuffed and runny noses and relieves aches and pains. Provide coverage of the tough cold for up to 24 hours with just a single timed-release tablet dosed morning, midafternoon and at bedtime.

each

Tussagesic®

timed-release tablet contains:

Triaminic® (phenylpropanolamine hydrochloride 25 mg., pheniramine maleate 12.5 mg., pyrilamine maleate 12.5 mg.)	50 mg.
Dextromethorphan hydrobromide	30 mg.
Terpin hydrate	180 mg.
Acetaminophen	325 mg.

Dosage: Adults—1 tablet, swallowed whole to preserve timed-release feature, in morning, midafternoon and at bedtime. *Side effects:* Occasional drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets. *Precautions:* The patient should be advised not to drive a car or operate dangerous machinery if drowsiness occurs. Use with caution in patients with hypertension, heart disease, diabetes or thyrotoxicosis.

DORSEY LABORATORIES • *a division of The Wander Company* • **LINCOLN, NEBRASKA**

Norinyl® tablets

(norethindrone 2 mg. c̄ mestranol 0.1 mg.)

for multiple contraceptive action that has produced a record of unexcelled effectiveness

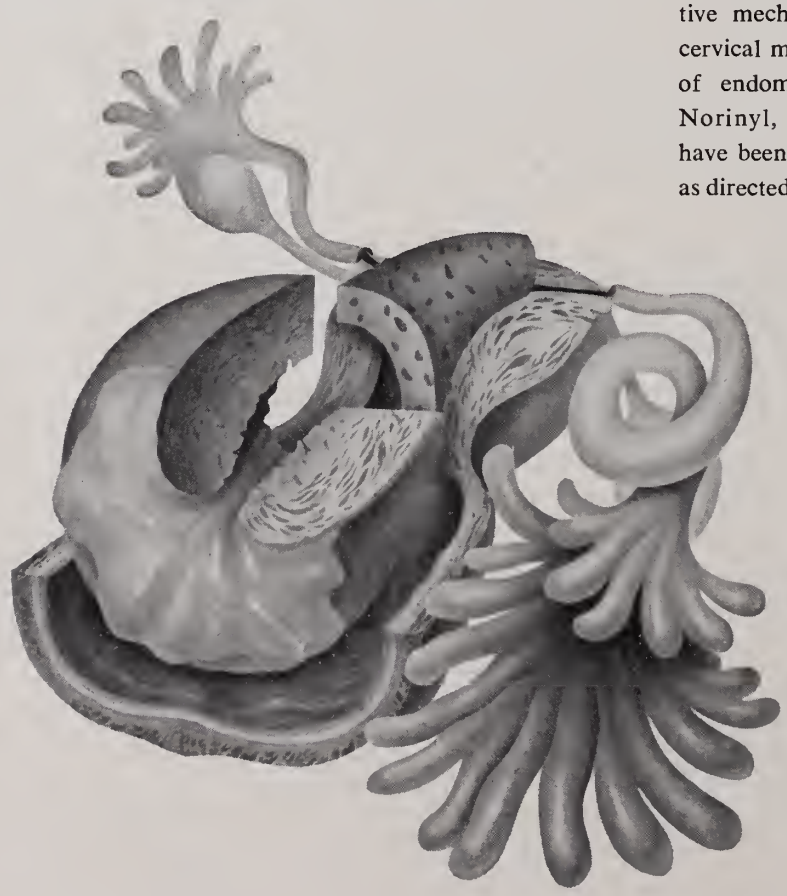
inhibition of ovulation by means of 2 time-proved hormonal agents

production of a cervical mucus hostile to sperm motility and vitality

creation of an endometrium unreceptive to egg implantation

no unplanned pregnancies

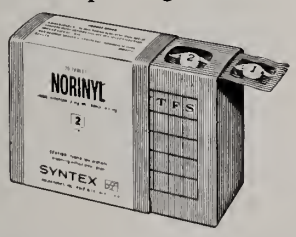
Norinyl provides multiple action for maximum assurance of success. It does not depend on ovulation inhibition alone for contraceptive effectiveness. The mechanism of action of combined hormonal therapy results in ovulation inhibition reinforced by other protective mechanisms, including a hostile cervical mucus[1-13] and an acceleration of endometrial changes.[1-3,7-16] With Norinyl, no unplanned pregnancies have been reported to date when used as directed.



plus important supportive benefits that help her through those critical early months of oral contraception

low incidence of side effects
Low incidence of BTB and spotting, nausea and amenorrhea tends to minimize side effect problems and increases patient cooperation.

no confusion about dosage
An unbreakable "confusionproof" package makes it easy to adhere to prescribed dosage schedule: individually sealed tablets numbered from 1 through 20 *plus* monthly calendar record enables patient to double-check dosage intake by day and corresponding tablet number.



Contraindications: Thrombophlebitis or pulmonary embolism (current or past). Existing evidence does not support a causal relationship between use of Norinyl and development of thromboembolism. While a study which was conducted does not resolve definitively the possible etiologic relationship between progestational agents and intravascular clotting, it tends to confirm the findings of the Ad Hoc Advisory Committee appointed by the Food and Drug Administration to review this possibility. Cardiac, renal or hepatic dysfunction. Carcinoma of the breast or genital tract. Patients with a history of psychic depression should be carefully studied and the drug discontinued if depression recurs to marked degree. Patients with a history of cerebral vascular accident.
Warning: Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn.
Precautions: By May 1963, experience with norethindrone 2 mg.—mestranol 0.1 mg. had extended over 24 months. Through miscalculation, omission or error in taking the recommended dosage of Norinyl, pregnancy may result. If regular menses fail to appear and treatment schedule has not been adhered to, or if patient misses two menstrual periods, possibility of pregnancy should be resolved before resuming Norinyl. If pregnancy is established, Norinyl should be discontinued during period of gestation since virilization of the female fetus has been reported with oral use of progestational agents or estrogen. When lactation is desired, withhold Norinyl until nursing needs are established. Existing uterine fibroids may increase in size. In metabolic or endocrine disorders, careful clinical preevaluation is indicated. A few patients without evidence of hyperthyroidism had elevated serum protein-bound iodine levels, which in the light of present knowledge, does not necessarily imply hyperthyroidism. Protein-bound iodine increased following estrogen administration. Bromsulphalein retention has occurred in up to 25% of patients without evidence of hepatic dysfunction. Studies from 24-hour urine collections have shown an increase in aldosterone and 17-ketosteroids and decrease in 17-hydroxycorticoid levels. Thus, Norinyl should be discontinued prior to and during thyroid, liver or adrenal function tests. Because progestational agents may cause fluid retention, conditions such as epilepsy, migraine and asthma require careful observation. Thus far no deleterious effect on pituitary, ovarian or adrenal function has been noted; however, long-range possible effect on these and other organs must await more prolonged observation. Norinyl should be used with caution in patients with bone, renal or any disease involving calcium or phosphorus metabolism.
Side Effects: Intermenstrual bleeding; amenorrhea; symptoms resembling early pregnancy, such as nausea, breast engorgement or enlargement, chloasma and minor degree of fluid retention (if these should occur and patient has not strictly adhered to medication plan, she should be tested for pregnancy); weight gain; subjective complaints such as headache, dizziness, nervousness, irritability; in a few patients libido was increased. In a total of 3,090 patients, 2.2% discontinued medication because of nausea.
NOTE: See sections on contraindications and precautions for possible side effects on other organ systems.
Dosage and Administration: One Norinyl tablet orally for 20 days, commencing on day 5 through and including day 24 of the menstrual cycle. (Day 1 is the first day of menstrual bleeding.)
Availability: Dispensers of 20 and 60 tablets; bottles of 100.

References: 1. Council on Drugs. JAMA 187:664 (Feb. 29) 1964. 2. Bryans, F. E.: Canad Med Ass J 92:287 (Feb. 6) 1965. 3. Goldzieher, J. W.: Med Clin N Amer 48:529 (Mar.) 1964. 4. Cohen, M. R.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965. 5. Hammond, D. O.: Ibid. 6. Rice-Wray, E., Goldzieher, J. W., and Aranda-Rosell, A.: Fertil Steril 14:402 (Jul.-Aug.) 1963. 7. Goldzieher, J. W., Moses, L. E., and Ellis, L. T.: JAMA 180:359 (May 5) 1962. 8. Kempers, R. D.: GP 29:88 (Jan.) 1964. 9. Tyler, E. T.: JAMA 187:562 (Feb. 22) 1964. 10. Rudel, H. W., Martinez-Manautou, J., and Maqueo-Topete, M.: Fertil Steril 16:158 (Mar.-Apr.) 1965. 11. Flowers, C. E., Jr.: N Carolina Med J 25:139 (Apr.) 1964. 12. Goldzieher, J. W.: Appl Ther 6:503 (June) 1964. 13. The Control of Fertility. Report adopted by the Committee on Human Reproduction of the American Medical Association. JAMA 194:462 (Oct. 25) 1965. 14. Flowers, C. E., Jr.: JAMA 188:1115 (June 29) 1964. 15. Merritt, R. I.: Appl Ther 6:427 (May) 1964. 16. Newland, D. O.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965.

norethindrone—an original steroid from
SYNTEX
LABORATORIES INC., PALO ALTO, CALIF

Norinyl® tablets
(norethindrone 2 mg c̄ mestranol 0.1 mg)

for multiple contraceptive action

ECONOMICAL!

CORDRAN®
FLURANDRENOLONE
Half Strength
Lilly

cream and ointment

Additional information available to physicians upon request.
Eli Lilly and Company, Indianapolis, Indiana 46206.
600811

The Virginia
MEDICAL MONTHLY

January, 1967
Vol. 94, No. 1
Whole No. 1376

Guest Editorial . . . .

Henry Bearden Mulholland, M.D.

HENRY BEARDEN MULHOLLAND, M.D., a native of Canada, was one of Virginia's medical statesmen. He was a rare combination of physician, teacher and worker in innumerable medical and medically related organizations. He was practicing medicine, his first love, until it was necessary for him to be hospitalized on October 19, 1966. This is just the way Dr. Mulholland would have had it.

Dr. Mulholland taught and practiced internal medicine for over 40 years at the University of Virginia Medical Center. He had served the School of Medicine as Assistant Dean, and at the time of his retirement in 1962 he was a professor of medicine. After his retirement he continued to serve the School of Medicine as a consultant.

The physicians Dr. Mulholland taught are now practicing and influencing medicine in every part of the United States. His patients not only came from Virginia, but from neighboring states as well. His name and fine reputation were known in both professional and lay circles. As a physician, Dr. Mulholland will be remembered for his ability to instill confidence and complete trust in his patients who appreciated his sympathetic frankness and honesty when it came to their medical problems. The statement, "If anyone can help you, Dr. Mulholland can", was commonplace among his patients.

According to an associate, the organization or affiliation which gave Dr. Mulholland his greatest pleasure and satisfaction was the Virginia Council on Health and Medical Care. He provided the medical leadership which was so vital in organizing the Council and getting it off to a sound and effective beginning. In 1946 Dr. Mulholland as president of The Medical Society of Virginia, called representatives of thirty-seven state-wide organizations together and at that meeting the Council was formed. This was at a time, when, without proper and strong medical leadership, the Council might never have grown to serve the Commonwealth of Virginia. Dr. Mulholland was the first chairman of the Council from 1946 to 1951. Following 1951, he served the Council almost continually in some capacity of leadership. At the time of his death he was a member of the Council's Board of Trustees. In 1956 he was the recipient of the Council's Distinguished Service Award.

Outside of his practice of medicine and his teaching, Dr. Mulholland was a recognized national authority in the fields of rural health, geriatrics

and diabetes. He served as a member of the Council on Rural Health of the American Medical Association. Much of his work with the Virginia Council on Health and Medical Care dealt with rural health. He was chairman of the American Medical Association's Committee on the Aging, speaking frequently on the subject in Virginia and elsewhere. Dr. Mulholland made major contributions to improved therapy for diabetes. In 1955 he was president of the American Diabetes Association, and received the Association's highest honor, the Banting Award.

Dr. Mulholland served his chosen profession with great distinction and effectiveness. In 1940 he was president of the Albemarle County Medical Society. From 1944 to 1946 he was president of The Medical Society of Virginia. He held numerous positions of leadership in the American Medical Association.

Dr. Mulholland's many interests and activities took him to every part of the United States and even beyond. He was well-known to many Pullman porters and airport attendants, who saw him frequently with his brief case hurrying from one meeting to another.

Last year the American College of Physicians honored Dr. Muholland by making him a "master", its highest membership award.

In 1962, at the time of his retirement, the University of Virginia conferred its Thomas Jefferson Award on Dr. Mulholland for bringing "greatest honor to the University through his work". He also was given the Algernon Sydney Sullivan Award, and the Raven Award at the University. He was a member of Phi Beta Kappa and Alpha Omega Alpha.

An avid and enthusiastic fisherman, Dr. Mulholland was a familiar sight from Wachapreague to the trout streams in the Allegheny's.

Reinforcing the regard and affection in which Dr. Mulholland was held, at least four of Virginia's great morning newspapers eulogized him editorially.

Dr. Mulholland has left a void which cannot be filled. The medical profession needs more "Hank" Mulhollands to provide it with the leadership it must have, particularly at this critical time in its existence, if it is to maintain the respect and confidence it needs from the public.

Dr. Mulholland's son, Dr. John Henry Mulholland, is following in his father's footsteps. He is now assistant dean of the School of Medicine at Johns Hopkins University. Many of his medical interests are similar to those of his distinguished father.

It is very fitting that the Mulholland family have given Dr. Mulholland's students, his patients, his associates, his friends and his admirers an opportunity to honor him by contributing to the Virginia Council on Health and Medical Care, Box 192, University Hospital, Charlottesville, or to the endowment fund for the Henry B. Mulholland chair in internal medicine at the School of Medicine, University of Virginia, Charlottesville.

Edgar J. Fisher, Jr.

Virginia Council on Health and Medical Care
Richmond, Virginia

Secondary Operations Upon the Stomach After Gastric Resection for Duodenal Ulcer

CLAUDE E. WELCH, M.D.
Boston, Massachusetts

Secondary operations after gastric resection may be for early postoperative complications or for late sequellae. The early complications such as perforation of the suture line, recurrent hemorrhage, and obstruction of the stoma are the most important. Late complications are also discussed.

IT IS A GREAT HONOR for me to be chosen to give the twentieth annual Horsley Memorial Lecture. This honor becomes all the more apparent when I review the list of distinguished predecessors who have united to pay tribute to the memory of the late Dr. J. Shelton Horsley.

Dr. Horsley was born to an age in which the attainment of faultless technic was the desire of every surgeon, for, if patients were to survive, meticulous attention to details of the operation was necessary. In those early days before the benefits of electrolytes, plasma and blood replacement were apparent, before antibiotics could protect a sloppy surgeon, and when anesthesia and aspiration pneumonia were, if not synonymous, at least frequent conspirators to produce an unwarranted demise, it was apparent that the quick and skillful hand of the surgeon must atone for many of these shortcomings. His was the era of "Cut well, sew well, get well", announced by Deaver; it was the era when the condition of the patient required comparatively little attention because there was so little to do about it, while the operative procedure became the all important test of the surgeon.

For this reason, Dr. Horsley was a leader in surgery.

His famous book on Operative Technics in Surgery, first published in 1921, had its sixth edition revised and expanded by Dr. Bigger in 1953. His monograph on Surgery of the Stomach and Duodenum, published in 1933, demonstrated that he was in an ever select group of surgical pioneers.

Because of the emphasis that he always placed upon technic, it seems appropriate to me at this time to review one of the subjects in which he was particularly interested, namely—the complications following gastric resection for duodenal ulcer. Because of the limitations of time, discussion will be limited to those complications which require a secondary operation upon the stomach or duodenum.

The secondary operations upon the stomach after gastric resection for ulcer may be divided into two large groups. The first includes those operations performed for early postoperative complications, and the second, those performed for the late sequellae. The first group is by far the more important because the patient in the early postoperative phase is not always in appro-

WELCH, CLAUDE E., M.D., *Visiting surgeon, Massachusetts General Hospital, and Clinical Professor of Surgery, Harvard Medical School.*

priate condition for a satisfactory type of operation, and the technical problems are often serious.

The most important problems that develop in the immediate postoperative period include perforation of the suture line, recurrent hemorrhage, and obstruction of the stoma. While many others do occur, in this brief summary it will be possible to discuss only these. No attempt can be made to give a comprehensive discussion; instead, the author's impressions gained from his clinical experience will be described.

Perforation of a suture line is by far the most dramatic and serious of the postoperative complications. If a Billroth II resection has been performed, either the duodenal stump or gastroenterostomy suture line may perforate. If a Billroth I has been used, there is only one suture line that can be involved. For all practical purposes, nearly all of these catastrophies occur after Billroth II operations, because most of the serious ulcers render a Billroth I inapplicable because of the poor condition of the duodenum.

The duodenal stump is by far the most likely source of postoperative intraperitoneal leakage. While such accidents theoretically never should occur, they do, and still continue in the hands of most surgeons at the approximate rate of 1 in every 100 resections. The mortality of a duodenal leak continues to be in the neighborhood of 50 per cent. It is obvious therefore that it is a very serious complication that accounts for nearly half of the mortality after gastric resections for duodenal ulcer.

It is also very clear that prevention is by far the most important therapy. While many methods have been proposed to effect a secure suture of the duodenal stump, the author has placed great reliance in the use of duodenostomy. While experimentally it can be shown that the duodenal stump in a normal dog can be closed satisfactorily by the pancreas, omentum, or even a free peritoneal graft, such procedures in patients with a great deal of fibrosis and inflammation about the duodenal stump are almost sure to fail. On the other hand, it is remarkable how well patients will do if a small catheter is introduced into the open end of the duodenum and a tight closure made around it so that postoperative duodenal distention is completely eliminated. There are however many pitfalls in this presumably simple operation that should be emphasized.

In the first place it is very unwise to attempt any deep dissection of the duodenum before this procedure is carried out. The longer the duodenal tube above the ampulla, the better the chances of early closure. Deep dissection also increases the hazard of pancreatitis. For this reason, when this method is selected, the duodenum should not be resected except for a minimum area beyond the pylorus. Furthermore, decompression should be carried out by means of a relatively small catheter, such as a #16 French, because if a larger one is used, the fistula may not close satisfactorily or rapidly. The key to success is merely decompression; it is not necessary to produce a total duodenal fistula. While it is appealing to use a Foley catheter with a balloon blown up to seal off the open end of the duodenum more securely, one must recognize the potential harm should the patient pull out an inflated Foley catheter. A complete dehiscence may occur that can be fatal. Furthermore the catheter and duodenum should be wrapped carefully with omentum and drainage provided beside the catheter in case any intraperitoneal discharge should occur.

A few years ago Harvey introduced another modification of this method which relied upon the retention of an antral muscular tube, stripping of the antral mucosa as in the Bancroft operation, and decompression of the duodenal stump by means of a Foley catheter. While at first this procedure seemed appealing, not long ago an incident occurred in which a surgeon used this method but the patient died of peritonitis. Autospy showed necrosis of the an-

tral muscular tube, with leakage about it. It seems, therefore, it is important to point out the fact that closure of an antral tube about the duodenal catheter is more subject to avascular necrosis and not likely as safe as closure of the duodenum.

Some question also may arise as to whether the catheter should be put in a terminal or in a sub-terminal position. This will depend more upon the condition of the duodenum than anything else. If the stump is relatively good, and closure can be fairly effective, then a subterminal duodenostomy should provide the decompression that will be necessary. On the other hand, if the duodenum is cartilaginous, almost any type of closure may be hazardous and this is the type in which the catheter in the end of the duodenum will be most satisfactory. Statistics on this subject will indicate an advantage in favor of the sub-terminal duodenostomy but it must be recognized that this variation is used for the operations that are performed under more favorable circumstances.

The second important type of leakage occurs from the gastroenterostomy stoma. This fortunately is very rare. In my experience it has always been a most unfavorable lesion. It is almost surely due to the devascularization of the stomach at the time of gastrectomy; this may occur through a high ligation of the left gastric artery, followed by devascularization or bleeding in the left upper quadrant so that a splenectomy is required. It is much safer to carry out a near total gastrectomy than to rely upon questionable blood supply in the proximal gastric stump. Fistulas from the gastrojejunostomy anastomosis usually do not manifest themselves until about the fifth day and at that time the patient develops peritonitis. This is also about the average time when dehiscence from the duodenal stump occurs.

In so far as the treatment of the dehisced duodenal stump is concerned, the proper therapy of course is immediate drainage. An attempt to close the fistula involves too much dissection and may do much more damage than good.

In so far as a leaking gastrojejunostomy is concerned, the tendency has been to resect the leaking anastomosis and perform a new one. This unfortunately has, in my experience, as well as in that of others, nearly routinely led to further breakdown of the anastomosis and then to death from peritonitis. It occasionally can be found that there has been a small perforation and in this instance it is best not to try to close it, but to merely insert a catheter and bring it out to the abdominal wall to form a temporary fistula. A feeding jejunostomy also should be established. These minor leaks are essentially the only ones that can be cured.

A second dramatic complication that occurs after operation is that of recurrent hemorrhage. By far the most likely cause of such hemorrhage in the early postoperative period is recurrent bleeding from an ulcer in the duodenum involving the gastroduodenal artery that has either not been ligated, or ligated insecurely at the time of the original operation. While bleeding from a suture line does occur, this is nearly always trivial in amount and does not produce the exsanguinating hemorrhage that is relatively common from a retained ulcer.

It is obvious that at the time of the original operation it is most important to ascertain whether or not the ulcer is bleeding. This requires the observation of the ulcer itself through the open end of the duodenum particularly if the line of resection has been made proximal to the ulcer. Then a vigorous attempt should be made to see whether or not a clot can be dislodged from the gastroduodenal artery, and by digital manipulation the site of bleeding often can be determined immediately and handled accurately. If an open gastroduodenal artery is found, ligation above and below is usually satisfactory although there may be bleeding from other arterioles above and below the ulcer that may also require interruption.

If the original operation has been of the

exclusion type, so that the duodenal ulcer has remained in situ, if the patient bleeds again, it is mandatory that the surgeon carry out a secondary operation and explore the duodenal stump with ligation of the bleeding vessel. Though this complication is not extremely common, I have seen it six times and have had success in all instances with a secondary operation. In nearly all of these cases, however, the duodenal stump has been very difficult to handle and in nearly all a catheter duodenostomy has been employed rather than a secondary closure of the stump in this inflamed field.

However the most common early postoperative complication that will bother most surgeons is the presence of stomal obstruction. This can be a harrowing experience because, unless some secondary operation is carried out, the patient may persist for weeks in a state in which he continues to lose nutrition and may reach a point where salvage is not possible.

It is my impression that in these days most of the postoperative stomal obstructions are due to mechanical errors about the anastomosis. Interestingly enough, fat necrosis of the retained omentum, and adhesions distal to the anastomosis are now much more common causes of such obstruction than they were many years ago.

It is my belief that the best way to avoid stomal infection is to remove a large section of the omentum at the time of the original operation, so that when an antecolic anastomosis is performed, the chances of fat necrosis of the omentum become minimal. The use of a short afferent loop, and the use of only two layers of sutures, of which the outer one is of cotton and the inner of very fine running catgut, have seemed to be important. Postcolic anastomoses now are done very rarely; the chances of postoperative obstruction from these are increased considerably over the antecolic type, since an edematous mesocolon may slip down and obstruct the jejunum.

If one assumes that fat necrosis in retained omentum is an important cause of stomal obstruction, it is interesting to speculate on the possibility that such fat necrosis might also at times involve the transverse colon when there has been a good deal of dissection about a thick mesocolon. Indeed in two cases we have observed this complication, in which the gastroenteric stoma has been entirely normal, but postoperative obstruction has been due to a woodeny inflammation about the transverse colon, converting it to a huge sausage of indurated tissue. Whether or not a transverse colostomy is required to treat such a complication is a matter of fine judgment though it may be assumed that if the patient may be tided over for an appropriate period, this inflammation will subside. On the other hand, if fat necrosis involves a retained omentum and an antecolic anastomosis has been done, almost surely a secondary operation will be necessary, with careful lysis of the whole efferent loop of jejunum and removal of the omentum. Secondary operations for stomal obstruction are indicated when, after an appropriate period, the patient has not improved. This I believe is at the end of about a ten day period in older patients and about three weeks in the younger ones. At the time of operation, usually the surgeon can ascertain the cause of obstruction. He will frequently correct this cause of obstruction and then assumes all will be well. Unfortunately this is not necessarily the case. As a matter of fact, nearly all such patients will have a period of recurrent obstruction shortly after the corrective operation has been done. For this reason, it is quite important that some method be used to maintain the patient in a good state of alimentation until the secondary reaction subsides. This is accomplished best by the two-tube jejunostomy technic introduced by Allen and Donaldson many years ago. Then, if secondary obstruction does occur, the surgeon is master of the situation; he can keep the stomach drained by one catheter and may maintain the patient's alimentation by the other.

When the stoma functions properly, the two catheters may be removed.

It must be recognized that a certain amount of apparent stomal obstruction is due to distal small bowel malfunction. For example, occasionally when double jejunostomies have been made, it will be found that the patient continues to be obstructed even though there is a large amount of drainage passing in a retrograde fashion from jejunum into stomach. This undoubtedly represents distal obstruction of the small bowel. Fortunately if one waits for a period of a few more days and then clamps off the tubes, the pressure in the stomach rises to a point above that of the distal intestine and the normal intestinal motions resume.

The key to operations on the obstructed stoma then are (1) to operate while the patient is in good condition, (2) to ascertain the cause of the obstruction and correct it, and (3) to prepare the patient for a more protracted period of obstruction after the secondary operation by the use of the double jejunostomy technic. By these measures all of these patients should survive this complication.

We will now pass to a consideration of the late complications that require reoperation after primary resection for duodenal ulcer. A study of our own cases has indicated that for all practical purposes, if the proper technic is followed, there is only one late postoperative sequel that is of any serious importance, namely recurrent ulcer. This does not agree with the experience of some other authors who have tended to stress mechanical defects created at the time of the original operation, and who have stated that most operations are necessary for the correction of these defects. It seems quite obvious that the material will vary in the hands of different surgeons. In our city, where the primary operation nearly always has been adequate from a technical point of view, surgeons have been quite unimpressed with the frequency of such problems as the afferent loop syndrome, or mechanical abnormalities about the anastomosis, that will be discussed later. On the other hand, such authors as Steinberg and Stammers have emphasized these mechanical features, and have indicated that in their experience anastomotic ulcers have been relatively infrequent causes of late postoperative symptoms.

There are relatively few studies of the effects of gastrectomy made five years or more after operation. In such a study of our own personal cases a few years ago, Rodkey and I found that after partial gastrectomy for duodenal ulcer, without vagotomy, there was an incidence of anastomotic ulcer of approximately 8 per cent in five years. This figure was lower if a 75 per cent resection had been carried out; under these circumstances the figure was 4½ per cent. Only private patients were included who were theoretically good candidates for operation. Consequently this incidence of anastomotic ulcer is surprisingly high and has become even more significant since it has been shown by various surgeons that the addition of vagotomy to the resection will lower the incidence of recurrence to approximately 1 per cent.

For this reason we have been performing vagotomies with nearly all gastric resections in the past few years. There has been of course a more limited follow-up on them but none of the patients on whom I have done the combined procedure has developed recurrent ulcer. Dr. Bartlett, also working in the Massachusetts General Hospital, has viewed this procedure with a good deal of favor, and has had only one recurrence; this was due to a missed vagal trunk. Therefore, if one wishes to prevent the complication of anastomotic ulcer, the chances are very high that it can be avoided by the use of vagotomy together with the resection. On the other hand, there will be certain instances, such as an older patient, or a very large fat man, who will tolerate a higher resection without any hazard, in whom the vagus nerves had better be left alone at the time of the first procedure. The fear of incapacitating diarrhea after vagotomy has

prompted a number of gastroenterologists to advise against its simultaneous use with gastrectomy; on the other hand, in our experience this has not been a troublesome factor, and I believe need not militate against the use of the combined operation.

At any rate some anastomotic ulcers will occur following gastric resection. The question then arises as to what is the best method of attack. In our experience the most satisfactory method has been a higher resection combined with vagotomy. While it is tempting to think that vagotomy alone will be satisfactory after resection, such is not necessarily the case. We have had a few instances in which vagotomy alone has not resulted in the healing of the ulcer, and a secondary resection has been required. On the other hand, a secondary resection, if it is combined with a vagotomy, has usually been successful. This operation of course is of somewhat greater magnitude than vagotomy alone, and the surgeon must decide on the basis of clinical judgment which method is wiser. It is of course also quite important to know whether or not there has been any retained antrum after the original gastrectomy. If there has been, it is necessary that this be removed at the time of the secondary operation.

Patients who do not respond to vagotomy plus higher resection will almost surely have had some form of Zollinger-Ellison syndrome that had not been diagnosed preoperatively, or perhaps some other metabolic disease such as hyperparathyroidism. All of these diseases should be considered and investigated carefully before a secondary operation is carried out.

We now turn to a rather interesting group of patients that in my experience has been very small indeed, namely those with mechanical defects about the anastomosis. If the patient has had a long afferent loop, he may be subject to repeated attacks of vomiting of bile, the same so-called afferent loop syndrome. If he has had too small an anastomosis performed, he may be subject to attacks of gastric distention. If there is partial obstruction about the stoma, occasionally a dumping syndrome may result. At any rate such patients have a bizarre group of symptoms, comprising chiefly nausea, vomiting and sometimes diarrhea; the pain of a recurrent ulcer is absent. The big question is whether or not all of these patients can be returned to normal by some sort of an operative procedure.

As is well known, a little over a decade ago, Mr. Henley from London advocated the use of an interposed jejunal loop between the stomach and duodenum, converting a Billroth II to a Billroth I anastomosis. He believed that this was a specific cure for these symptoms, and reported originally a series of over 40 patients with striking relief. The interesting feature in so far as American surgery is concerned is that this operation has never attained any great popularity. I believe that this is due to the fact that in most instances where a reoperation has been necessary, mechanical defects have been found about the Billroth II anastomosis, which, when corrected, alleviated most of the symptoms. On the other hand, it is remarkable how many patients with symptoms of this type will be improved if they are brought into the hospital, treated carefully by a gastroenterologist and then, with good medical advice, symptoms become very much better and no operative procedure is necessary.

Dr. Colcock of the Lahey Clinic tells me that he has never had to introduce a jejunal loop for these symptoms. I personally have had to introduce only one, and we have had less than half a dozen patients at the Massachusetts General Hospital who have had it. The results following this operation may vary all the way from brilliant to poor. The difficulty is that a number of these patients are somewhat psychotic, and in them almost any operation is likely to fail. On the other hand, it must be recognized that occasionally this operation is worth trying. The question as to whether it should be performed with an isoperistaltic or an anteperistaltic loop of jejunum has concerned

the attention of a number of surgeons. In view of the rather small number of operated patients, I think it is hard to take a dogmatic view about this point. In one of our patients who had an antiperistaltic loop there was a great deal of obstruction, and the patient was worse after her operation than she was before. This has led me to believe that it is safer to use an isoperistaltic loop, attempting to avoid any type of obstruction.

There is finally a group of patients, who, despite numerous operations upon their stomachs, continue to be miserable, with nausea, vomiting, cramps, diarrhea and loss of weight. Several of these will have had numerous operations performed without any relief; they seem to be such confirmed neurotics that nothing can be done for them. On the other hand I am sure that a number of them can be salvaged. Most of their difficulty usually resides in the fact that there has been a plastic peritonitis in the upper abdomen that has produced a large number of adhesions close to the anastomosis so that normal peristaltic activity cannot occur. A somewhat similar situation is now being discovered after certain cases of pyloroplasty in which adhesions of the right upper quadrant have prevented adequate function of the stomach after this procedure. There is essentially only one way to relieve such obstruction, and that is to reduce the amount of fluid that has to run through the stomach and upper intestine as much as possible. This involves the division of the afferent loop by the anastomosis and its implantation at a lower level by a Roux-Y procedure. It is clear that if this is done in a patient who has any acid secretion left in his stomach that the chances of recurrent ulceration will be extremely high. For this reason, if the stomach is to be isolated in this fashion, it is imperative that a vagotomy and at least an antrectomy be performed to reduce all chances of acid secretion to a minimum.

This operation has been advocated by Norman Tanner, who has called it his "#19" procedure. He also has reserved it for his worst patients. We have in our hospital employed it a total of five times. The results in general have been astonishingly good. Some of these patients have been converted from a life of chronic invalidism to a stage of excellent health; their vomiting has disappeared, they are able to eat, they have gained weight and have become essentially or entirely asymptomatic. The dramatic relief is typified by one of these patients who, turned down by the gastroenterologist as hopeless, and after shock therapy had no relief, was cured of his symptoms by this radical procedure.

This brief summary has indicated that secondary operations after gastric resection for duodenal ulcer are very important; they are required to save life early after the primary procedure in about 5 per cent of patients, and to relieve late symptoms in another 5 per cent. Methods have been described to reduce both figures and by the same token, to lessen the mortality rate of operation.

Finally it was most interesting to me, after this lecture had been formulated, to reread many of the pages of Dr. Horsley's monograph on Surgery of the Stomach and Duodenum. He lived in a period when short-circuiting procedures were replaced by gastric resection for duodenal ulcer. Though the pendulum today has swung toward the performance of pyloroplasty and vagotomy as the preferable primary definitive operation, if history is any teacher, it may be expected that the pendulum will swing back again so that the lessons learned from gastroectomy must not be lost.

We now feel somewhat smug in our large body of knowledge, and review his case reports that include such now uncommon and primitive complications as necrosis of the transverse colon following gastrectomy. But the important principle is that he learned from experience. Every case, whether successful or not, served as a guide for his future course. We can do no more than that today. Our individual successes

and individual failures, if forgotten or brushed aside, will create few ripples in the sea of surgical knowledge. On the other hand one's recorded personal experience, even when it is modest, may be a great stimulant to others. This I believe was the spirit in which Dr. Horsley wrote his monograph. It is the spirit in which this material is presented today.

---

275 Charles Street
Boston, Massachusetts

Fortify Nonfat Dry Milk

Federal regulations should be modified to permit fortification of all nonfat dry milk with vitamins A and D, an American Medical Association council has urged. Vitamin fortification would help prevent one of the possible paradoxes of food relief programs: that unless vitamins are also supplied, existing nutritional deficiencies can be made worse by supplementing vitamin-short diets with the protein, minerals, and calories in nonfat dry milk.

The AMA's Council on Foods and Nutrition has previously endorsed the fortification of nonfat dry milk. Its statement in the Journal of the AMA repeats this endorsement and encourages revision of the U.S. Public Health Service Milk Code to make fortification possible.

Some nonfat dry milk going overseas in the Food for Peace program already is fortified with vitamins A and D, the statement points out. This is made possible through a cooperative program between the Agency for International Development and the U.S. Department of Agriculture.

The Council urges that *all* nonfat dry milk be fortified and that the standards of identification for the substance, established by Congress in 1944, be changed to permit this.

"Nonfat dry milk is distributed widely as a surplus food commodity in domestic and foreign relief programs. It replaces fluid whole milk in the diet of entire families in the United States. Therefore, it is important that nonfat dry milk be equivalent in fat-soluble vitamin content to whole fluid milk. This is not now the case."

"Serious nutritional problems exist in many areas of the world. Emergency food relief programs of many kinds have made significant inroads. However, the availability of surplus farm commodities cannot be considered justification for their inclusion in relief programs unless the foods meet the specific needs of the recipient population."

"The Council on Foods and Nutrition strongly recommends that all nonfat dry milk be fortified with the vitamins A and D. However, the standards of identity for nonfat dry milk, established by Congress in 1944, do not allow for fortification with vitamins A and D. Therefore, it it recommended that appropriate congressional action be taken to amend the Act of Congress of March 2, 1944, which established a standard of identity for nonfat dry milk solids, so that it will allow for the fortification of nonfat milk solids with vitamins A and D."

Subacute Bacterial Endocarditis Due to Streptococcus Fecalis (Enterococcus)

FRANK E. TAYLOR, M.D.
Charlottesville, Virginia

Subacute bacterial endocarditis and its treatment are discussed and a case, successfully treated, is presented.

THE ENTEROCOCCI are responsible for 4 to 16 per cent of the cases of bacterial endocarditis. Enterococcus endocarditis is also important because of its high resistance to doses of penicillin, which are generally effective for streptococcus viridans endocarditis. A case of enterococcus endocarditis which responded well to therapy is reported.

Case Report

M. C., a 48 year old lady, was admitted to the Martha Jefferson Hospital on May 7, 1965, complaining of chills, fever, and weakness of five weeks duration. Her symptoms began while she was visiting relatives in her native Greece; when she arrived back home in the United States two weeks before her admission, she was feeling worse. Six days prior to admission she had been seen in the office with soreness in the right flank, and her urinalysis showed a 1+ albumin, sugar negative, and microscopic 25-30 WBC/hpf and 5-6 RBC/hpf. Hematocrit was 35%. She was treated as having pyelonephritis and given sulfisoxazole (Gantrisin) 1 gm. four times a day. Because her symptoms continued and she did not improve, she was admitted to the hospital.

The past medical history revealed the patient had had rheumatic fever 25-30 years ago and was confined to bed for five months with a probable heart involvement. In 1958 she was treated with radium and cobalt for epidermoid carcinoma of the cervix, Stage II-III. In January 1963 she had a pyogenic meningitis, the etiological agent never determined, and was treated as a meningococci meningitis with penicillin and sodium sulfadiazine. During the time of her hospitalization at this time she had numbness of the left side of the body, blurring of vision, double vision, difficulty in swallowing, and speech impairment. It was several months before she could walk alone. On physical examination during this hospitalization, mention was made by one examiner of a Grade II/VI apical systolic murmur. She was discharged as cured in 21 days. When first seen by this examiner for a physical examination on March 27, 1964, she was still complaining of a numbness over the left side of the body, and it was felt that this was a residual neurological deficit from her previous meningitis. She also had findings of rheumatic heart disease with mitral insufficiency.

Her mother had died with cancer of the liver and her father had died in his late 90's of an unknown cause. The patient had been married 27 years, and her husband and three children were alive and in good health.

The patient had no complaints of any recent sore throats or cough. There was no shortness of breath or orthopnea. She had no headaches or dizziness. Systems review of the gastrointestinal tract was noncon-

This work was done on the Medical Service of the Martha Jefferson Hospital, Charlottesville.

tributory. There had been no vaginal bleeding since radiation therapy.

On physical examination the patient was chronically and acutely ill, pale, and "washed out". Blood pressure was 140/80, pulse 92, and temperature 99.6°F. Examination of the eyes, ears, nose, and throat revealed the conjunctiva to be quite pale. The lymph glands were normal. There was a grade III/VI apical systolic murmur transmitted to the anterior axillary line. The lungs were clear to auscultation and percussion. There was a slight tenderness over the right abdomen, but no costovertebral angle tenderness. Pelvic revealed a tight vagina with atrophic changes; the cervix was not seen, and the area of the uterus and adnexa was clear. There were no rectal masses.

Laboratory data was as follows: Urinalysis showed a specific gravity 1.008, albumin negative, sugar negative, and microscopic 0-1 WBC/hpf and 0-1 RBC/hpf. The hematocrit was 31 ml/100 ml, WBC 4200 mm^3 with 2% bands, 36% segs, and 62% monocytes; hemoglobin 9.4 g/100 ml, red blood cells 3.97 million/mm^3, reticulocytes 2% of erythocytes, platelet count 204,000/mm^3, and sedimentation rate 35 mm/hr. The blood serology was non-reactive. Three L.E. preps were negative, and the R.A. slide test was weakly reactive. The direct Van den Bergh was 0.15 mg per cent, and total 0.51 mg per cent. The direct and indirect Coomb's test were negative. Alkaline phosphatase was 3.2 B.U., and uric acid 4.8 mg per cent. The stool examinations on three occasions were negative for ova or parasites, and a stool culture was negative for Salmonella and Shigella. The routine agglutinations were negative.

Beginning on the day of admission and continuing over a 24-hour period of time, six blood cultures were obtained. Of these six cultures, five grew enterococci sensitive to penicillin, erythromycin, sodium methicillin (staphcillin), and chloramphenicol. The urine culture grew out E. Coli greater than 10,000 organisms.

Chest x-ray and intravenous pyelogram were normal, and it was noted that there was slight enlargement of the spleen. An electrocardiogram done May 24, 1965, was normal.

The diagnosis was rheumatic heart disease, mitral insufficiency, and subacute bacterial endocarditis due to streptococcus enterococci.

The patient was treated with aqueous penicillin, one million units every two hours, and streptomycin, one gram twice a day for 16 days. She was then given streptomycin 0.5 grams twice a day, aqueous penicillin one million units, and phenoxymenthyl penicillin tablets (pen Vee K) one gram on alternate doses every two hours. This program was continued for nine days, making a total of 25 days therapy in the hospital. At home, she continued to receive one gram phenoxymethyl penicillin tablets (pen Vee K) orally every two hours; and streptomycin, 0.5 gram, twice a day for one more week.

By the fourth day of therapy, she became afebrile and remained so throughout the rest of her hospital stay. Six blood cultures were negative from May 25, 1965, to May 28, 1965.

When last seen in the office on June 18, 1965, the patient was beginning to feel stronger and had no further chills or fever. Blood pressure was 120/80, pulse 80, and temperature 98°F. There was a Grade I/VI aortic squeaky systolic murmur, and a Grade III/VI apical systolic squeaky murmur transmitted to the anterior axillary line. She was beginning to increase her ambulation and activity on a limited basis.

Discussion

Bacterial endocarditis is a disease due to a bacterial infection of the valvular and mural endocardium. In subacute forms, the original focus is generally asymptomatic and the clinical picture is due to the endocardial lesions and their complications. In acute bacterial endocarditis, the endocardial infection is secondary to some other primary disease with bacteremia, which

dominates the clinical picture. With the improvement in early diagnostic and therapeutic means, the nomenclature should be based on the etiological agent. The terms acute and subacute bacterial endocarditis become academic.[1]

The causative organism in bacterial endocarditis in about 95% of the cases is due to:

(1) Streptococcus viridans
(2) Streptococcus fecalis (enterococci)
(3) Staphylococcus aureus (micrococcus)

The other 5% of the cases are due to a great variety of microorganisms composed of pyogenic, saprophytic, yeast and fungi-like organisms.

Rabinovich et al., in a series of 141 cases from 1950-1963, found an increase in the bacteriological negative cases, an increase in the number of untreated cases, and an increase in the fatality rate to over 50%. The cases of strep viridans are declining, while staphylococcus aureus, epidermidis and non-hemolytic streptococci are increasing.[2]

In a total of 337 cases received by Rabinovich et al., 68% had underlying rheumatic heart disease, 16% no cardiac disease or the disease was undetermined, 13% had congenital heart disease, and less than 1% luetic heart disease with no cases of luetic heart disease since 1945. The other diseases made up 1.5%.

In the majority of cases, the precipitating cause is not determined. It may develop after dental extractions, tonsillectomy, upper respiratory infections, genitourinary manipulations, intestinal infections, or after cardiovascular surgery. The enterococcus endocarditis is most likely to occur following disease or manipulation of the genitourinary tract such as cystoscopy or transurethral resection, septic abortions, ulcerative lesions of the colon, disease of the gastrointestinal tract, pelvic pathology, and peripheral abscesses. This infection may occur in the absence of disease.

The development of subacute bacterial endocarditis is dependent on the entrance of microorganisms into the blood stream for very brief periods. The bacteria are implanted on valves, mural endocardium, and vascular intima. Platelet thrombi on previously damaged valves, or recent valvular vegetations aid in the localization of the infection. The fibrin may provide a medium of growth and at the same time protect against bactericidal substances.[1] These vegetations may be of any proportion, and they may be a source of constant bacteremia which cause fever and/or toxemia. They may account for fragmentation of embolic bacterial masses.

The vegetations are predominantly on the left side of the heart on the valves, chordae tendineae, or mural endocardium. Most of the cases of bacterial endocarditis show a predominance of males. It was interesting in Rabinovich's series that women only predominated with isolated involvement of the mitral valve.[2] With enterococci endocarditis, most of the infections are in men and the course may be either acute or subacute—usually the latter. The symptoms and signs of 141 cases by Rabinovich showed 63% with an insidious onset of weakness, fever, chills, malaise, fatigue, lassitude, weight loss, pallor, shortness of breath, joint pains, anorexia, or anemia. The other one-third of the cases had a very rapid onset of symptoms. The signs included those of fever in 100%, murmurs 96%, petechiae 47%, splenomegaly 43.2%, hematuria 28.3%, albuminuria 26.2%, arthralgia 25.1%, abnormal fundi 17%, clubbing 14.9%, Osler's nodules 11.3%, changing murmurs 9.9%, and Janeway lesions 4.9%.

The clinical picture is essentially the same, regardless of the bacterial organism. Enterococci have a tendency for the embolic phenomenon to suppurate. Splenic abscess and rupture of this organ followed by peritonitis is not unusual.

The laboratory findings may show hematuria, albuminuria, leukocytosis, or normal white blood count levels, low hemoglobin

levels and low platelet counts. No less than five blood cultures should be obtained. The first blood culture would be positive in 80% of the patients, but increasing the number will slowly but steadily increase the number of isolations.

The central problem of chemotherapy in bacterial endocarditis seems to be the killing of virtually all bacteria in the vegetation. In subacute bacterial endocarditis, one is dealing with a poorly vascularized vegetation (with fibrin and necrotic valve substance). The metabolic exchange with the blood stream is slow and the leucocytes are in small numbers. The host factors can never eradicate this infection. Even though bacteriostatic drugs have a high sensitivity in vitro and a few cases of cure with them have been reported, there is a high incidence of failure. Inhibition tests may be misleading in that some antibiotics inhibit, but do not kill; while others inhibit poorly, but do kill.[4]

The rate of multiplication of bacteria is known to affect the response to antibacterial substances, penicillin in particular. Resting bacteria are resistant to penicillin. Organisms in the depths of vegetation will be in a phase of slow growth under conditions approaching maximum population density, so that there is a need for prolonged and intensive therapy.[4]

Penicillin kills the organisms slowly and incompletely. Streptomycin by itself is totally inactive and yet, when combined with penicillin, a marked enhancement of bactericidal effect is observed.[5]

The treatment of streptococcus enterococci includes the use of penicillin and streptomycin. When the streptococci is sensitive to concentrations above 0.1 units/cc., it is resistant. Most enterococci are sensitive to 1-5 units of penicillin/cc. There is 50-150 times the resistance to penicillin as with the standard organisms. Streptomycin potentiates the action of penicillin. It is recommended that 6-10 million units of penicillin be given per day, as well as 2 grams of streptomycin per day. The penicillin is continued for six weeks, and the streptomycin for four weeks.

The complication of the combined treatment with the use of penicillin and streptomycin may be that of a fulminating staphylococcic enteritis, usually within a few days of therapy. At this time the antibiotics have to be stopped, and treatment begun with supportive therapy, as well as beginning erythromycin.

The important aspects of therapy of bacterial endocarditis are (1) the antibiotic must reach the offending organisms in suitable concentration, (2) the antibiotic must remain in contact with the organism for a long period of time, and (3) the antibiotic must kill and not suppress the growth of the organism.

The causes of the failure in satisfactory treatment of subacute bacterial endocarditis are the development of (1) heart failure (valvular deformity), myocarditis, coronary embolism; (2) failure to control infection; (3) vascular catastrophies to the peripheral vessels (embolism, mycotic aneurysms, cerebral, and pulmonary); (4) renal failure; (5) relapse; (6) re-infection; and (7) inadequate or delayed therapy.[3]

Failure of one or two courses of treatment is not to be taken as evidence of no success. Eventual cures have been obtained after five relapses. Should penicillin and streptomycin fail, one of the other drugs may be tried in combination with streptomycin or penicillin.

Hunter reported in 1951 a cure rate of 70%; 20% died from complications of heart failure, cerebrovascular accident, and renal insufficiency; and 10% died of infection.[5]

Rabinovich, in a review of 141 cases from 1950 to 1963, had an immediate fatality of 30%. Another 21% died within five years of discharge, making a fatility rate of 51%.

Summary

This lady had a history of rheumatic fever about 30 years ago. About seven years

ago she had received treatment with radium and cobalt for epidermoid carcinoma of the cervix. Two years ago she had had a pyogenic meningitis of unknown etiology, and at this time a heart murmur was noted. It is interesting to speculate whether or not she had a bacterial endocarditis at this time which was manifesting itself with cerebral symptoms. The precipitating cause for the present admission for subacute bacterial endocarditis due to enterococci is not known; however, she had had a malignancy of the cervix in the past, and this area may have been the origin of her present trouble. She responded well to penicillin and streptomycin and, after 16 days, oral penicillin was alternated with injectable penicillin every two hours to cut down on the discomfort to the patient. The total treatment was continued for 32 days. When seen six weeks after her hospital admission, she was doing well except for general weakness.

References

1. Friedberg, Charles K.: Diseases of the Heart. Bacterial Endocarditis. 2nd Ed., W. B. Saunders Co., Philadelphia and London, 1956, p. 861.
2. Rabinovich, S., Evans, Jr., Smith, I. M., January, L. E.: A Long-term View of Bacterial Endocarditis. Ann. Intern. Med., 63:185, 1965.
3. Kerr, Andrew, Jr.: Subacute Bacterial Endocarditis. Charles C. Thomas, Springfield, Ill., 1955.
4. Hunter, T. H.: Speculations on the Mechanism of Cure of Bacterial Endocarditis. J.A.M.A. 144:524, 1950.
5. Hunter, T. H.: Bacterial Endocarditis. Am. Heart J. 42:472, 1951.

400 Locust Avenue
Charlottesville, Virginia

Treating Gout

Gout has sometimes been called the "disease of kings" because it often seems to strike persons with exceptional ambition, leadership ability, and good records of achievement. These are precisely the qualities stimulated by high levels of serum uric acid. By decreasing uric acid concentrations in the blood, physicians have been able to control many cases of gout's painful swelling.

The treatment isn't successful, however, for those who do not respond to the drugs, are allergic to them, or who have advanced kidney disease.

The November 14th Journal of the American Medical Association contains a report of successful treatment of 24 such cases of "resistant gout" with the drug, allopurinol.

The author, Elmer C. Bartels, M.D., of the Lahey Clinic Foundation, Boston, said the therapy was successful in every case. Earlier studies reported varying results with allopurinol in such treatment. The drug was effective in reducing serum uric acid concentrations, which always seemed to result in reduction and eventual subsidence of the gout.

Only one adverse reaction (a rash) was reported among the group of patients, which has subsequently been expanded to 60.

Alcohol, Automobiles, and the Law

JAMES C. ANDREWS, M.D.
Charlottesville, Virginia

The personal efforts of physicians and the coordinated efforts of all medical societies are needed to aid in the drafting of suitable laws to prevent deaths and injuries on the highways.

A RECENT PAPER[1] written by Dr. Fletcher Woodward of Charlottesville, reviewed the seven proposals of the Albemarle County Medical Society for prevention of deaths and injuries on the highway. These seven proposals were adopted as resolutions by the Albemarle County Medical Society in January 1962 for presentation to the General Assembly of Virginia through the Senator and Delegates from the Charlottesville and Albemarle County area. The Virginia Academy of General Practice, the Council of The Medical Society of Virginia, and a number of other medical and lay organizations of Virginia endorsed these proposals. The only vestige of the 1962 proposals which passed the General Assembly was an emasculated implied consent law that has since proven unworkable and which provided an elaborate escape mechanism for drunken drivers.

In the past year the Committee of the Albemarle County Medical Society for the Prevention of Highway Deaths and Injuries restudied the original proposals. It was determined that the most effective and immediately available remedy for the increasing deaths and injuries on the highway that could be carried out at this time and on a state level was the elimination of the drunken driver, for it has been well established that alcohol levels above 50 mg. per 100 milliliters of blood are present in over one-half of the drivers involved in fatal automobile crashes.[2,3,4,5] This Committee of the Albemarle County Medical Society recommended uniform penalties for drunken driving with the juries' duties limited to the establishment of guilt. (Virginia is one of but eight states in which a jury can assign the penalty in a traffic case.)[6] The Committee also recommended that the breath test be utilized in order that an immediate, accurate test could be made for determination of the alcohol level. (Virginia is the only one of sixteen states having an implied consent law which limits the tests to blood only.)[7] The "breath test" can be carried out by state police officers or other law enforcement officers who have been trained in the use of the Breathalyzer, Drunkometer, or other approved equipment.[8] Training is not difficult and does not require a major expenditure of time for certification.

This Committee also recommended that 100 mg. of alcohol per 100 milliliters of blood be established as the level at which a person would be declared to have been driving under the influence of alcohol. It was recognized by the Committee that 50 mg. of alcohol per 100 milliliters of blood would be a preferable level at which to establish "drunken driving", but it was felt that this amount of reduction would not be made by the General Assembly at this time, and hence the upper figure of 100 mg. per 100 milliliters of blood was considered acceptable as a move in the right direction.

The Albemarle County Medical Society adopted the resolution as previously men-

tioned, and this was forwarded to the Delegates and Senator from this area.

The remainder is history, for the 1966 General Assembly did not adopt the breath test, and it did not establish 100 mg. per 100 milliliters of blood as indicative of drunken driving, although a provision for "impaired driving" at levels between .10% and .15% was established.

It is apparent that the complex traffic patterns that we are confronted with today will not permit errors in judgment or impaired coordination. It has been shown that coordination is definitely impaired at alcohol levels of 50 mg./100 ml of blood and above,[8] and it has been shown that judgment is impaired even below this level.[8] The great number of traffic crashes has created major problems in law enforcement, and it is imperative that the necessary evaluations of intoxication be carried out with dispatch.

The wide acceptance of social drinking and the increase in alcoholism has compounded the major public health problem of automobile deaths and injuries. In addition to the personal tragedies and the loss of useful life, the economic burden of automobile crashes is staggering. It is therefore difficult to resolve the problem at hand with the inaction on the part of our legislators. Ignorance, identification with the defendants, and fear of confronting constituents with restrictive legislation are seemingly responsible for our ineffectual laws pertaining to the automobile and the driver.

Many physicians are unclear as to the medical tests involved in chemical examination of body tissues for the presence of alcohol, and both lawyers and physicians seem poorly informed on the legal considerations in such testing. The American Medical Association through its Committee on Medico-Legal problems has published a manual entitled, Chemical Tests for Intoxication, bringing together the laboratory tests and the legal questions involved in obtaining evidence pertaining to drunken driving. The manual is available to physicians on request to the publications office of the American Medical Association in Chicago. A useful and extensive bibliography is included.

As physicians, we should urge our legislators to adopt the breath test for determination of alcohol in the blood, and we should urge them to lower the permissible alcohol level of the blood to 50 mg. per 100 milliliters (.05%). We should demand that they change the archaic law which permits the jury to set the punishment in traffic violations and replace this law with one which limits the jury to determination of guilt and which places with the judge the responsibility for affixing the proper mandatory penalty. We should make known through our local news media and our civic organizations the concern of the physician in these matters. We should speak directly to our delegates and senators urging all possible speed in adoption of useful and effective legislation directed toward the elimination of the drunken driver.

Summary

The drunken driver is involved in well over one half of fatal automobile crashes. The use of the breath test by law enforcement officers, who are properly trained in the use of the equipment, is an effective means of identifying drunken drivers. Jury duties should be limited to the determination of guilt in traffic cases with mandatory penalties set by the traffic judges for various infractions of the law. Reduction of the permissible blood alcohol level to 0.05% (50 mg./100 ml) is advised. The personal efforts of physicians and the coordinated efforts of Virginia county medical societies and The Medical Society of Virginia are needed to overcome the inertia of Virginia legislators in drafting the necessary laws to combat this major health problem.

Editor's Note: Dr. Andrews is a member of Albemarle County Medical Society's Committee for Prevention of Highway Deaths and Injuries.

References

1. Fletcher D. Woodward, M.D.: Medical Aspects of Automotive Injuries and Deaths. Southern M. J. May, 1966.
2. William Haddon, Jr., M.D., M.P.H., and Victoria A. Bradess, M.D.: Alcohol in the Single Vehicle Fatal Accident. J.A.M.A. 169: pp. 1587-1593, April 4, 1959.
3. James R. McCarroll, M.D. and William Haddon, Jr., M.D., M.P.H.: A Controlled Study of Fatal Automobile Accidents in New York City. J. Chron. Dis. May 19, 1961.
4. William Haddon, Jr., M.D., M.P.H.: Alcohol and Highway Accidents, read before Session on Medical Aspects of Automobile Injuries and Deaths, Annual Meeting, AMA, N.Y., June 27, 1961.
5. William Haddon, Jr., M.D., M.P.H., and Herman E. Hilleboe, M.D.: The Drinking Driver, a Contemporary Social and Moral Problem, Report based on statement prepared for the seminar, The New York State Council of Churches, Albany, N. Y., Feb. 2, 1960.
6. Governor's Highway Safety Com. Report No. 165, (Va. Traffic Safety News), Feb. 1963.
7. Governor's Highway Safety Com. Report No. 197, (Va. Traffic Safety News), Nov. 1965.
8. Comm. on Medicolegal Problems: Chemical Tests for Intoxication, American Medical Assoc., Chicago, Ill. 1959.

---

801 East High Street
Charlottesville, Virginia

Ambition and Uric Acid Levels

A teenager's ambition, such as his drive to go to college, may be affected by the amount of uric acid in his blood. This is a suggestion of a study of Pittsburgh, Pa., high school boys which appears in the November 14th Journal of the American Medical Association.

Several investigations have indicated that uric acid, a waste product of the body's metabolism, positively affects a person's drive, ambition, and achievement. Uric acid has nothing to do with general intelligence, however. High levels of the substance found in some persons' blood is purely a physiological phenomenon.

This latest study by University of Michigan investigators found that, among 62 high school boys, some who attended college did not differ markedly in ability or scholastic achievement from those who did not attend. The college-attenders, however, did have significantly higher serum urate (uric acid) concentrations. The authors suggest that this is additional evidence of the relationship of serum uric acid levels to achievement-oriented behavior.

The current study began in February, 1961, when 138 high school junior and senior-class boys answered a brief questionnaire and contributed blood samples.

Four and a half years later, investigators restudied these boys, and divided them into three groups: those who completed college, those who attended, but did not complete college work, and those who did not attend. Not surprisingly, many of those in the "completed college" category had received the highest scholastic marks in high school. In the other two groups, however, little difference was found in general ability. The thing which set apart "attended college" boys from those who did not attend was their significantly higher serum urate concentrations.

The authors emphasize that the study relates only to high school boys, and suggest that serum urate's effects on behavior may relate only to males. Earlier studies which included girls were inconclusive.

Authors of the report are Stanislav V. Kasl, Ph.D.; George W. Brooks, M.P.H., and Sidney Cobb, M.D., M.P.H., of the Institute for Social Research, University of Michigan, Ann Arbor.

The Medical History of Jefferson Davis

FREDERIC W. GRAY, M.D.
CHESTER D. BRADLEY, M.D.
Hampton, Virginia

The medical history of Jefferson Davis is discussed. Particular emphasis is placed on his confinement at Fort Monroe.

ON THE MORNING of May 24, 1865, Lieutenant Colonel John J. Craven, Chief Medical Officer of Fort Monroe, was told by the Commanding General that he would be responsible for the health of Jefferson Davis. Dr. Craven went at once to the chamber in the wall of the Fort known as Casemate No. 2, where the captured President of the Confederate States had been imprisoned several days before. Entering the dark cell, the physician found Jefferson Davis lying on an iron cot. He was guarded by two soldiers with fixed bayonets. Craven described his first encounter with this distinguished patient in the following words: "He presented a very miserable and afflicting aspect. Stretched upon his pallet and very much emaciated, Mr. Davis appeared a mere fascine of raw and tremulous nerves —his eyes restless and fevered, his head continually shifting from side to side for a cool spot on the pillow, and his case clearly one in which intense cerebral excitement was the first thing needing attention. He was extremely despondent, his pulse full and at ninety, tongue thickly coated, extremities cold, and his head troubled with a long established neuralgic disorder. Complained of his thin camp mattress and pillow stuffed with hair, adding, that he was so emaciated that his skin chafed easily against the slats; and, as these complaints were well founded, I ordered an additional hospital mattress and softer pillow, for which he thanked me courteously."

—*Fort Monroe Casemate Museum*
DR. CRAVEN AND JEFFERSON DAVIS AT FORT MONROE

The following morning Dr. Craven found the patient somewhat improved and grateful for having slept better due to the additional mattress. "I have a poor, frail body," said Jefferson Davis, "and though in my youth and manhood, while soldiering I have done some rough camping and campaigning, there was flesh then to cover my nerves and bones; and that makes an important difference." The patient further said that he was subject to "bilious fever", suffered much from neuralgia, had lost the sight of one eye, and was the victim of what he called the "American malady", or dyspepsia, ever since quitting the active, open air life of the army. Craven then

ordered a preparation of calisaya bark to aid the digestion, but he advised that exercise was the best medicine for dyspepsia. Whereupon the prisoner uncovered his ankles, which were secured by heavy iron shackles, exclaiming that he could not even stand erect, let alone exercise.

Dr. Craven went to the Commanding General and urged that the shackles be removed in the interest of the patient's recovery, pointing out that, "No drugs could aid a digestion naturally weak and so impaired, without exercise; nor could anything in the pharmacopoeia quiet nerves so overwrought and shattered, while the continual irritation of the fetters was counterpoising whatever medicines might be given." Three days later the shackles were removed from the captive and never again applied. To Craven this seemed striking evidence that the influence of the medical profession was second only to that of the priesthood.

Jefferson Davis was at this time 57 years old. Born in Kentucky in 1808, the youngest of a family of ten, he was reared in Mississippi. His higher education was obtained at Transylvania University, Lexington, Kentucky, and the United States Military Academy, West Point, New York. He had served as a lieutenant in the U. S. Army from 1828 to 1835 in the Middle West, at that time a wilderness. Marrying the daughter of his commanding officer, against the wishes of the latter, he had resigned from the army to take up the life of a planter in Mississippi. When his wife died, after only a few months of married life, he went into seclusion on his plantation for about ten years. He then married a high-spirited and very well educated young girl, Varina Howell, of Natchez, Mississippi, and went into politics. When the Mexican War broke out in 1846 he resigned from Congress to take command of the Mississippi Rifles and served with distinction in Mexico. Subsequently, he served several terms as U. S. Senator from Mississippi and was, also, U. S. Secretary of War from 1853 to 1857. When Mississippi seceded from the Union in January 1861, Jefferson Davis resigned from the U. S. Senate.

To his own surprise, he was elected President of the newly-formed Confederate States of America. He had hoped to serve in the army. Nevertheless, he gave his best efforts to leading a struggle which was doomed to defeat because of the superior power and resources of the Federal Government. Even after the surrender of the Confederate armies of Lee and Johnston, Davis attempted to continue the war. Accompanied by members of his cabinet and a force of 3,000 cavalrymen he tried to flee to Texas where there was still an intact army under General Kirby Smith. On April 14, 1865, Abraham Lincoln was shot. Jefferson Davis was accused of plotting this assassination. He was captured in Georgia on May 10 and was brought to Fort Monroe for imprisonment.

The medical history of Jefferson Davis reveals no record of any serious childhood diseases. While at West Point, he fell sixty feet over the river bank, was bedridden for months and was not expected to live. In 1835 both he and his first wife had what was called "malarial fever". She died; he recovered. In 1838 he fell into a creek, cut his scalp, lost blood, fainted, went to bed and was found unconscious the next morning. He was restored to consciousness by what was referred to as several hours of hard work by the doctor. In 1847, at the Battle of Buena Vista in Mexico, he was shot in the foot, but he stayed in the thick of the fighting. At the end of the day, when his wound was finally attended to, pieces of his spur and sock were found in it. The wound became infected and spicules of sequestered bone were extruded for some time. He used crutches for two years and the foot remained painful for eight or ten years.

In 1850, while in the U. S. Senate, he had an "acute inflammation of his left eye"

with severe photophobia. For three weeks he had to work at night and sleep in the daytime. In 1858, again in the U. S. Senate, "he caught a very severe cold which gave him laryngitis; and before this subsided, the left eye became intensely inflamed. He lay speechless and blind, only able to communicate his thoughts by feeling for the slate and writing them, more or less intelligibly, for four weeks." A prominent eye specialist, who was called in, stated that "a procedenture of the pupil had taken place, and the eye was in imminent danger of bursting." Davis was confined to a dark room for a total of two months. Three years later, in January, 1861, he arose from a sick bed, to which he had been confined by a severe attack of "neuralgia", to make his speech of resignation from the Senate.

While President of the Confederate States the receipt of bad news, it is said, would make him ill for several days. He was often too exhausted to receive visitors, which was interpreted by some as an assumption of superiority. He was very sensitive to criticism, opposition or disapproval. His wife, Varina, said, "My husband's health was at this time very precarious, and he was too weak to ride to headquarters. General Lee came up from camp one day evidently worn out and worried, to find Mr. Davis lying quite ill on a divan . . ."

Such then was the medical history of Dr. Craven's new patient. In fact, his patient told him at the very outset, "I fear, Doctor, you will have a troublesome and unsatisfactory patient. One whose case can reflect on you little credit. There are circumstances at work outside your art to counteract your art." In the days and weeks that followed, Dr. Craven records that the patient became despondent, complaining of faint spells, insomnia, throbbing headaches, impairment of memory, vision and hearing, tight feeling in the chest, dry cough, extreme weakness, double vision, lack of appetite, and a throbbing pain in the back of the neck. Craven found at various times nervous debility, livid complexion, a "pulse denoting deep prostration of the physical energies" and a "severe bilious remittent fever". On one occasion the doctor made an emergency visit because the patient complained of numbness of the extremities and feared that he was about to become paralyzed.

Treatment included a "bilious cathartic", whitewashing the walls of the cell for the disinfection of the air-borne vapors (miasma) which were in that day deemed the cause of febrile diseases, exercises of the arms and legs, weak brandy and water, a stimulating eyewash, and friendly conversation and reassurance. Finally, after much persistence, the doctor succeeded in getting permission for the patient to walk on the ramparts of the fort one hour daily. He also secured permission for the patient to have newspapers and magazines, which were very welcome additions to the Bible and prayerbook, the only reading matter previously allowed.

However, in August, Jefferson Davis developed erysipelas of the face, a disease truly alarming for that day and age. In addition, he developed a carbuncle of the thigh. The patient, who was treated in his cell, had a fever for seven days and was greatly prostrated for ten days. The doctor gives us no hint of the treatment he used. Just as Craven was congratulating himself on the patient's recovery, another carbuncle appeared, but this eventually sloughed out and healthy granulations were seen. But Craven was now thoroughly convinced that the moist atmosphere of the casemate, overlooking the moat, was inimical to the health and very life of the patient. He made such strong representations to the Commanding General that the latter finally obtained permission from the War Department to move the prisoner to Carroll Hall, an officers quarters, in the northwest bastion of the fort.

Now came the cool autumn weather and the patient had need of an overcoat for his

daily walks on the ramparts. Impatient of army red tape, Dr. Craven personally ordered an overcoat from Jefferson Davis' former tailor in Washington, D. C., directing that the bill be sent to himself. This incident was reported in the newspapers and Dr. Craven was reprimanded. He was eventually removed from attendance on the prisoner. Craven was soon mustered out, and he returned to private practice in Newark, New Jersey. Before long, he had a book published which was entitled *Prison Life of Jefferson Davis.* It is thought that this book, published simultaneously in New York, London, and Paris, had a great deal to do with preparing public opinion for the eventual release of the prisoner.

Dr. Craven's successor was Colonel George E. Cooper, an army doctor from Pennsylvania, who, like Craven, had to treat the prisoner for a never-ending series of symptoms and complaints. Dr. Cooper also became very sympathetic with Jefferson Davis. By now the U. S. Government realized that the charges against the prisoner were untenable. The restrictions were relaxed. The prisoner's wife, his youngest child, and his sister-in-law were permitted to live with him in an apartment in Carroll Hall, and he was permitted to have visitors at will. On May 13, 1867, after two years of confinement at Fort Monroe, Jefferson Davis was released on a bail bond of $100,000. Two years later, all charges were dropped.

Soon after Davis' release, he and his wife went to Canada to join their other children who were in school in the vicinity of Montreal. In June 1868 he fell down a flight of stairs, sustaining a head injury and two fractured ribs. When he did not rally after a few days in bed, his doctor became very worried. The patient remained withdrawn and despondent. Finally, some English friends suggested that the whole Davis family come to England with them for a visit. The doctor enthusiastically fell in with this idea and prescribed a sea voyage as the best hope of preserving the "splendid intellect" of the patient. The Davises traveled for some time in Europe, then settled in Memphis, Tennessee, where the ex-President engaged in business for about seven years. Finally, they accepted the invitation of a good friend to stay in a mansion at Biloxi, Mississippi.

For the rest of his long life, Jefferson Davis continued to have many symptoms and complaints. He was treated by eye specialists, stomach specialists, general practitioners, and by his wife, who seems to have had more success than any of the doctors! Her standbys were Dover's powders, calomel and soda, and hot compresses. In November 1889 the venerable patriarch contracted a severe respiratory infection which the doctors diagnosed as "acute bronchitis complicated with grave malarial trouble". He was taken to the home of a good friend in New Orleans where he was given assiduous treatment. He lingered for a number of days, but then began to decline and early in the morning of December 6, 1889, he died at the age of 81 years.

Jefferson Davis had no children by his first wife. By his second wife, Varina, he had six children, but ill fortune pursued them. Sam died at the age of two years of an undiagnosed infantile disorder in 1854. Joseph was killed by a fall from a veranda of the Confederate White House at the age of five in 1864. William died of diphtheria at the age of 11 in 1872. Young Jefferson was carried off by yellow fever at the age of 21 in 1878. Winnie, who as a small child was with her parents at Fort Monroe, grew to be a beautiful young woman, but she died in 1898 at the age of 33 of what was called by the doctors "malarial gastritis". Margaret was the only one to have children. The Mississippi legislature legally changed the name of one of her sons from Jefferson Addison Hayes to Jefferson Hayes Davis so that his grandfather's name might be perpetuated.

When the Jefferson Davis Casemate at

Fort Monroe was opened as a museum in 1951 this grandson, Jefferson Hayes Davis, who was a vice-president of the First National Bank of Colorado Springs, Colorado, accepted an invitation to attend the dedication ceremonies. Physically, he was the image of his famous grandfather, but there the resemblance ended. He look like a jolly, healthy extrovert who had never had an ache or pain in his life. When the Fort Monroe band struck up "Dixie", he linked arms with the senior author of this paper and marched nimbly across the parade ground to the Jefferson Davis Casemate. In the cell he good-naturedly sat on the cot for photographers, in the pose of his grandfather, while two young men dressed as Union soldiers guarded him with fixed bayonets. An empty chair was placed near him. This was just in case the ghost of the kindly Dr. Craven should drop in!

Bibliography

Bradley, Chester D.: Dr. Craven and the Prison Life of Jefferson Davis. The Virginia Magazine of History and Biography 62: No. 1 (January 1954), pp. 50-94.

Craven, John J.: Prison Life of Jefferson Davis. New York, Carleton, 1866.

Davis, Varina: Jefferson Davis. New York, Belford Company, 1890. 2 vols.

Official Records of the Union and Confederate Armies. Washington, Government Printing Office, 1899, series II, vol. 8.

Ross, Ishbel: First Lady of the South: The Life of Mrs. Jefferson Davis. New York, Harper and Brothers, 1958.

Strode, Hudson: Jefferson Davis. New York, Harcourt Brace and Company, 1955, 1959, 1964. 3 vols.

Veterans Administration Center
Hampton, Virginia

"Arthritis Drug" Is Dangerous

Serious, even fatal, side effects are possible from an unlabeled drug that apparently is being brought into this country for the treatment of arthritis, warns the American Medical Association.

Represented to be "dimethyl pryazalone sulfanilamide," samples of the substance were analyzed by the U.S. Food and Drug Administration to be the drug, dipyrone.

The FDA is investigating reported importation of unlabeled ampules of dipyrone from Mexico, says the Medical News section of the August 15th Journal of the American Medical Association.

Dipyrone is an analgesic, or pain-killing substance, but it is not approved in the U.S. as a treatment for arthritis. Its use is justified only in rare instances, say the 1966 edition of "New Drugs," published by the AMA Council on Drugs, and a 1964 statement by an FDA committee.

Dipyrone and aminopyrine, from which it is derived, "are capable of causing and have caused fatal agranulocytosis." Other, safer, analgesics that can be legitimately prescribed are effective against arthritis pain.

Dipyrone is classified as a "new drug" by the FDA, which means it cannot be distributed in interstate commerce nor imported into the U.S. for commercial purposes unless application is made for a specific kind of treatment. No new drug applications are on file for dipyrone as a treatment for arthritis, nor are there applications for dipyrone's experimental use in this manner.

According to the AMA's "New Drugs," the only medically justified uses of dipyrone may be for treating children's febrile convulsions when other measures and drugs fail, and for controlling fever in Hodgkin's disease and similar malignant diseases when other methods fail.

The Postpericardiotomy Syndrome Following Blunt Trauma to the Chest

HERBERT M. BREWER, M.D.
Norfolk, Virginia
DONALD W. DICKHAUS, M.D.
Denver, Colorado

Blunt trauma to the chest is a frequent occurrence in this day when highway crashes are too common. This may result in various manifestations of traumatic heart disease including late pericardial involvement simulating the "postpericardiotomy" syndrome.

DUE TO THE INCREASING NUMBER of automobile accidents, numerous reports of traumatic heart disease have appeared in the literature. Rupture of the heart, papillary muscles, valves and chordae tendinae are well described; however, isolated pericardial lesions have been seldom emphasized. The traumatic etiology is perhaps often overlooked because of the lapse of time between injury and onset of symptoms. Many of the cases of idiopathic pericardial effusion and chronic constrictive pericarditis actually may have been caused by blunt trauma. It is, therefore, the purpose of this report to describe a case of blunt trauma to the chest resulting in late pericardial involvement simulating the "postpericardiotomy" syndrome.

From the Denver Veterans' Administration Hospital and the Department of Cardiology, University of Colorado Medical Center, Denver, Colorado.

Article submitted while Dr. Brewer was Fellow in Surgical Cardiology, University of Virginia Medical Center, Charlottesville. Formerly, Fellow-in-Cardiology, University of Colorado Medical Center, Denver, Colorado.

DICKHAUS, D. W., M.D., *Chief of Cardiology Section, Denver Veterans' Administration Hospital, Denver, Colorado.*

Case Report

A 32 year old male was admitted for the first time to the Denver Veterans Administration Hospital on September 13, 1963, because of progressive cardiomegaly. On July third, the patient was involved in an automobile accident at which time he sustained a steering wheel injury to the anterior chest. The patient was admitted to another hospital where he was treated for shock with blood and albumisol. Physical examination on that admission revealed a blood pressure of 130/70. The head and neck were normal. The chest exhibited limited expansion bilaterally. There were large areas of ecchymosis over the anterior chest wall. Bilateral moist rales were noted over the pulmonary bases. The heart sounds were normal, and no murmurs or rubs were described.

The patient responded well to initial shock therapy, and during the ensuing ten days of hospital stay, his only complaint was residual soreness over the anterior chest. The pain was not pleuritic nor was it synchronous with the heart beat. It was originally thought that the patient may have sustained an aortic laceration because of the x-ray appearance of widened mediastinum. No further comment was made on this observation, and x-rays were not made available for comparison with present films.

Following discharge he complained only

of slight dyspnea on exertion. A routine follow-up examination one month later revealed the heart shadow to have increased

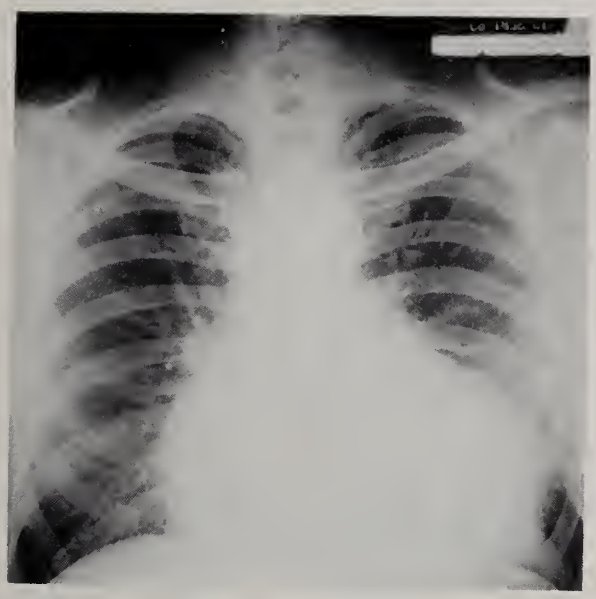


Fig. 1

in its transverse diameter. Subsequent weekly examinations demonstrated progressive enlargement of the cardiac silhouette. He was then referred to the Denver Veterans' Administration Hospital for further diagnostic studies.

Physical examination on this admission revealed a regular pulse of 108 per minute; blood pressure 120/95 with 10 mm. of "paradox"; temperature 98.6°. He was well developed, well nourished, and in no physical distress. The jugular venous pressure did not appear to be clinically elevated. The chest cage exhibited good bilateral expansion. The lungs were clear. The PMI was neither visible nor palpable. The left border of cardiac dullness was in the left anterior axillary line. The heart sounds were distant. The second sound over the pulmonary area was not accentuated and splitting was normal. A pericardial friction rub was heard at the lower left sternal border at the fourth intercostal space. No murmurs were noted. The liver was not thought to be enlarged, and peripheral edema was not present.

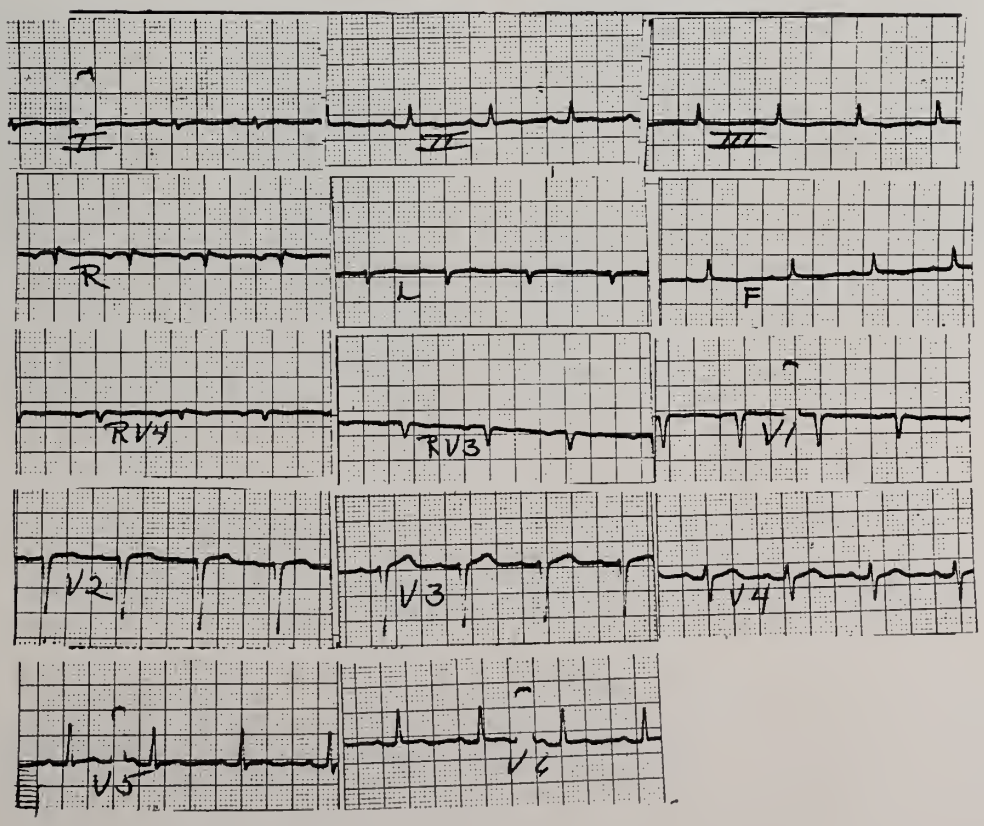


Fig. 2

Laboratory data: White blood count 12,600 (57% neutrophiles); hematocrit 55; hemoglobin 18.2; LDH 360; SGOT 9. Intermediate strength PPD was negative. Initial x-rays of the chest showed generalized cardiomegaly without specific chamber enlargement (Fig. 1). Fluoroscopy revealed decreased amplitude of pulsation. The electrocardiogram exhibited low voltage with a mean frontal plane QRS axis of 90°. There was generalized flattening of the T waves which were also inverted and diphasic in the left precordial leads (Fig. 2). A cardiac scan, after the injection of RISA, demonstrated a small blood pool as compared with the cardiac shadow and suggested massive pericardial effusion (Fig. 3).

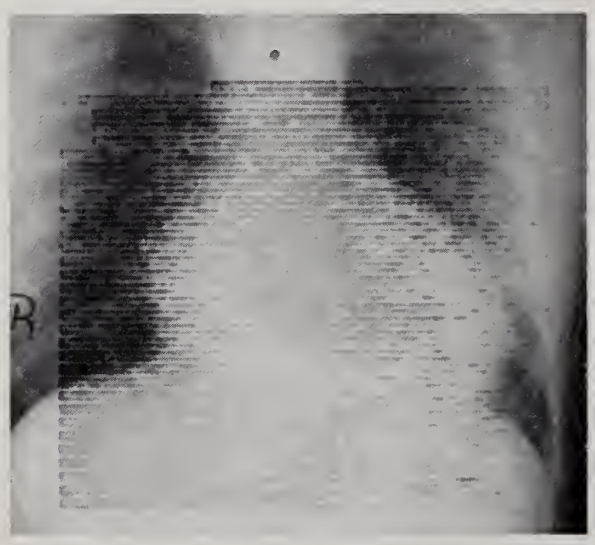


Fig. 3

A pericardiocentesis was performed without difficulty and 450 cc. of serosanguineous fluid was removed. The fluid did not clot and had a hematocrit of 11. A post-tap x-ray did not reveal any significant reduction in heart size. Five days after pericardiocentesis, a loud pericardial friction rub was heard over the entire precordium. A second tap was attempted, but no fluid was obtained even though penetration of the pericardial space to the myocardium was confirmed by ST segment elevation when the needle was used as an exploring EKG electrode. The patient continued to be asymptomatic. He denied chest pain and was not dyspneic at rest.

Two weeks after admission and one week following the second pericardiocentesis, the patient began spiking temperature elevations of 100° and 102°. No evidence of infection could be found, and nine blood cultures were negative. On October eleventh the patient was started on 40 mgs. of Prednisone daily. Within 48 hours his temperature was normal, and the pericardial friction rub was barely heard. After ten days of steroid therapy, the friction rub was no longer audible, the temperature had remained normal, and the cardiac silhouette had approached normal size (Fig. 4). The

Fig. 4

sedimentation rate had decreased from 20 to 9. The patient was last seen one and a half years following therapy, and he continues to be asymptomatic. His chest films remain within normal limits.

Discussion

This case exemplifies a pattern of reaction which bears marked similarity to that sometimes seen following myocardial infarction or pericardotomy incident to various cardiac surgical procedures.[1] It has seldom been mentioned in relationship to trauma, and only a few similar cases were

found upon reviewing the literature. Previous reports of pericardial involvement have, for the most part, been related to early involvement largely manifested by the presence of friction rubs and cardiac tamponade soon after the trauma was sustained. In some autopsied cases a fibrinous pericarditis was observed. Undoubtedly, injury to both the myocardium and pericardium were sustained in this case at the time of the original accident and served as the basis for the delayed pericardial reaction. The mechanism is no better elucidated in this case than in those cases where a different insult was the inciting cause. The common denominator appears to be a hypersensitive reaction to blood in the pericardial sac. The dramatic response to steroids as first described by Dresdale[2] (1956) for cases of the postpericardiotomy syndrome was similar in this case and in those cases reported by Goodkin[3] (1960) and Gunnar[4] (1962). Long term follow-up has revealed no obvious permanent sequelae. While constrictive pericarditis has been rarely reported following trauma to the heart with hemopericardium,[5] the constrictive symptoms of dyspnea on exertion, paradoxical pulse, and elevated venous pressures seen during the acute phase of this case were no doubt related to the pericardial effusion with some degree of tamponade. These symptoms abated during steroid therapy, and follow-up a year and a half later revealed no evidence of cardiac enlargement or pericardial disease.

Summary

An unusual case simulating the "postpericardiotomy syndrome" following blunt trauma to the chest has been reported. The response to steroid therapy was dramatic, and follow-up after one and a half years has revealed no recurrence of symptoms or evidence of pericardial disease.

References

1. Dressler, W.: Idiopathic Recurrent Pericarditis, Comparison with Post-Commissurotomy Syndrome. Considerations of Etiology and Treatment. Am. J. Med. 18:591, 1955.
2. Dresdale, D. T., Ripstein, C. B., Guzman, S. V., and Green, M. A.: Postpericardiotomy Syndrome in Patients with Rheumatic Heart Disease. Cortisone as a Prophylactic and Therapeutic Agent. Am. J. Med. 21:57, 1956.
3. Goodkin, M. J., Bloomer, W. E., and Goodyear, A.: Recurrent Pericardial Effusion After Non-Penetrating Chest Trauma. Report of Two Cases Treated with Adrenocortical Steroids. New England J. Med. 263:874, 1960.
4. Gunnar, R. M.: The Syndrome of Post-Traumatic Pericarditis. Am. Heart J. 64: 543, 1962.
5. Ehrenhoft, J. L. and Taber, R. E.: Hemopericardium and Constrictive Pericarditis. J. Thoracic Surg. 24: 355, 1952.

701 Medical Tower
Norfolk, Virginia

Clinicopathological Conference . . . .

Giant Gastric Ulcer in a 65 Year Old Male

Prepared and Edited by
PAGE HUDSON, M.D.
JOHN H. MOON, M.D.
Medical College of Virginia

DISCUSSANTS:

Yale H. Zimberg, M.D., Associate Professor, Department of Surgery, Medical College of Virginia; Chief of Surgery, McGuire VA Hospital

Robert H. Armstrong, M.D., Assistant Professor, Department of Radiology, Medical College of Virginia; Radiologist, McGuire VA Hospital

David S. Borland, M.D., Formerly Associate Professor, Division of Surgical Pathology, Department of Pathology, Medical College of Virginia; presently Senior Pathologist, St. Mary's Hospital

Clinical History

This 65 year old white male was admitted to the Medical College of Virginia Hospital on 5/20/65 with a chief complaint of "gnawing and weakness" in his left epigastrium of about six weeks duration. The onset was usually in the late afternoon and again several hours after dinner. The sensation was relieved completely by alkali and was not associated with nausea, vomiting, change in bowel habits or in the character of his stools. He stated that for many years he had had pyrosis and vague lower abdominal fullness related to dietary indiscretion but these symptoms were completely different in nature from the ones precipitating his current admission. In the preceding six months he had had a weight loss of nine pounds.

Review of systems was essentially negative. Past medical history was negative except for transcolonic removal of three polyps in 1962. Family history was noncontributory.

Physical examination: BP 120/80, P. 66, R. 20, T. 98.2°. The patient was a well developed, well nourished, man who was in no acute distress. There was no significant peripheral lymph node enlargement. The trachea was in the midline and the thyroid was not palpable. The chest was clear to percussion and auscultation. The heart was of normal size with no murmurs or arrhythmias. A2 was greater than P2. On abdominal examination there were no masses palpated and no tenderness was apparent. The liver was not enlarged. The remainder of the physical examination was essentially normal.

Laboratory data: The urine was yellow, clear and acid with a specific gravity of 1.020. Protein, sugar and acetone were negative. Microscopic examination of the urine was negative. Hemoglobin 14.4 gm.%, hematocrit 45%. White cell count 7,650/mm^3 with 59% neutrophils, 36% lymphocytes, 2% monocytes, 2% eosinophils and 1% basophils. BUN 19 mg.%, uric acid 5.5 mg.%, fasting blood sugar 13 mg.%. Serum alkaline phosphatase 1.8 B.L. units. Total bilirubin 0.7 mg.% with a direct reacting fraction of less than 0.05 mg.%. Total proteins 7.3 gm.% with 4 gm.% albumin. Serum sodium 144 mEq/l, chlorides 97 mEq/l, potassium 4.3 mEq/l and CO2 combining power 27. One stool was positive for occult blood.

An electrocardiogram was normal. A chest x-ray was also within normal limits. An upper G.I. series showed poor peristaltic activity in the stomach and there was a filling defect in the greater curvature of the body of the stomach measuring at least 7 cm. in length. The wall of the stomach over a length of approximately 5 cm. appeared fixed and thickened with no ulceration demonstrated. The duodenal bulb was ir-

ritable, small and showed no obstruction. A gallbladder series was interpreted as normal.

Gastric washings were taken which were negative for tumor cells. Overnight gastric suction showed free hydrochloric acid of 45°, combined 28°, total 73°. Repetition of the gastric analysis revealed free hydrochloric acid 6 mEq/l, total acid 31 mEq/l, combined hydrochloric acid 25 mEq/1. The gastric aspirate was positive for blood.

An abdominal operation was performed on 5/26/65.

Clinical Discussion

Dr. Yale H. Zimberg: This is the first time that I have had a CPC in which the diagnosis was so clearly, statistically evident. There is one diagnosis you can make here that would be right 95 out of 100 times in a similar clinical situation. With the diagnosis I have in mind, there is but one therapeutic approach and that is the one that concludes our clinical history. If you have a 65 year old male patient who has had vague dyspepsia for six or eight years as this patient did, and you think the symptoms are significant enough to get a G.I. series and you find that the patient has a mass-type lesion in the stomach that is persistent, there is only one diagnosis that you can make and this is adenocarcinoma of the stomach. If you make this diagnosis in such a case, you are going to be right most of the time. Now I realize that this is a CPC, so the odds change. Nevertheless, this is the diagnosis that one would logically have to make first. Realizing that there are other possibilities, I will go through the clinical history and comment about the features described, tell you what I might have done with this patient, and then give a resume of what other diagnostic possibilities exist in such a case.

A 65 year old white male patient was admitted to the Medical College of Virginia Hospital on 5/20/65 with the chief complaint of "gnawing and weakness" in his left upper epigastrium of about six weeks duration. I never have understood what "weakness" means when patients describe this. I suppose it is an awareness of something in the abdomen. The "gnawing" pain may be ulcer pain. The onset is usually late in the afternoon and again several hours after dinner. The fact that many patients complain more in the late afternoon than during the morning is of interest. Apparently, when one is busy and has a lot to do, one pays less attention to infirmities, but later in the day with more time to sit down, one becomes more cognizant of mild distress.

We know the patient has a gastric lesion. He might have a large ulcerating lesion burrowing into the pancreas posteriorly but his pain does not sound like this. It is not penetrating or persistent. He may have ulceration with associated disturbances of intravisceral pressure. Pain associated with lesions in the stomach and duodenum is probably secondary to motility disturbances. I think that this is what is happening here. In the report given by the radiologist, there was some impediment to normal peristalsis and this may have been the cause of the "gnawing" pain. Another possibility for the origin of pain is that of acid coming in contact with an ulcer, a concept of decreasing popularity. The sensation was relieved completely by alkali and was not associated with nausea. This is important and would suggest a gastric peptic ulcer, but does not rule out a malignancy. A number of years ago, Alvarez[1] and Redd[2] pointed out that many patients with gastric carcinomas and gastric lymphomas that had ulcerated lesions did respond to antacids and to anticholinergics.

The patient did not have nausea, vomiting, a change in bowel habits or the characteristics of his stool; this is important. If he had had nausea or vomiting, this might have been due again to motor disturbances in the stomach. It might be due to some impediment in flow through the esophago-gastric junction or the pylorus. Many patients with peptic ulcer disease of the stomach or other lesions of the stomach

do have lower abdominal complaints suggestive of disease of the colon and I think this occasionally makes you erroneously believe that the colon is the culprit.

The patient stated that for many years he had had pyrosis and vague lower abdominal fullness related to dietary indiscretions, but these symptoms were completely different in nature from the ones precipitating his current admission. In reviewing the x-rays, I noted a hiatus hernia. His pyrosis was probably caused by his hiatus hernia. In the preceding six months, he had a weight loss of nine pounds. We do not know why this has occurred. Many patients with neoplasms of the stomach do lose weight. Some get anorectic because of the ulcerated, infected mass in the stomach. There may be a significant loss of protein and blood from the lesion that will contribute to the anorexia.

What are the presenting complaints of patients with gastric neoplasms? Many of them present, as this patient does, with vague upper abdominal pain, a "gnawing" sensation and occasionally pain that is relieved by antacids. Some patients present with dysphagia because the lesion may block the esophago-gastric junction, some with weakness secondary to occult blood loss from the gastric lesion while others have overt bleeding with hematemesis or melena. Our patient apparently did not have overt bleeding, although we are told that he did have blood in his gastric aspirate and also in his stool. Some patients also have moderately severe electrolyte deficiencies associated with large weeping areas in the stomach, particularly with the hypertrophic gastritis. Some patients present with an acute surgical abdomen because of perforation of a gastric cancer.

Most patients that we see who have carcinoma of the stomach unfortunately present with a more clearcut picture than this because we see them late in the course of their disease. Many have abdominal masses. Many of them have palpable supraclavicular nodes and many of them have obvious blood loss. Many are very cachectic because of the sequelae of obstruction, vomiting or tumor mass ulceration. Our patient did not have this, and this is important because if you see patients with gastric carcinoma very early, you are going to find a very difficult history to interpret. Remember that the earlier you see these people, the more astute you have to be in making the diagnosis.

There are many things that we would like to know about the previous laparotomy and colonic polypectomy and the subsequent follow-up of this patient, but that data is not available to us. The family history was not contributory. In the physical examination, the vital signs were normal. The patient was well developed and well nourished. This implies that the man does not have a severe systemic disease. It also implies that if he had a carcinoma, it was probably not far advanced. The absence of peripheral lymphadenopathy is significant if one is thinking of gastric lymphoma. On abdominal examination there was no mass palpated and no tenderness was apparent. This is, I think, moderately significant because many of the lymphomas and sarcomas that involve the stomach are bulky lesions that can be palpated. The liver was not enlarged; however, you can have many metastases to the liver without its being palpably enlarged. The remainder of the physical examination was essentially normal. The patient assuredly must have had a rectal examination. We would like to know if he had a rectal shelf that might have been detected. We have made the diagnosis of a metastatic intraabdominal lesion several times by transrectal biopsy of a rectal shelf.

In the laboratory data, the hemoglobin was 14.4, the hematocrit 45. This level in the absence of dehydration shows that he has not been bleeding significantly and that his nutrition has been fairly good. His differential blood count is also relatively normal. This patient does not appear to have any blood dyscrasis. There have been a few cases of significant eosinophilia associated

with a Loeffler's-type syndrome and associated eosinophilic lesions in the G.I. tract, but we are not given this information so we cannot really make this diagnosis here. The total serum proteins were normal, another suggestion that his nutrition was good. His blood chemistries were normal indicating he did not have a gastric lesion that produced a significant loss of electrolytes and fluid. This also points away from an endocrine problem that may have caused a gastric lesion. The chest x-ray was also within normal limits. This tends to rule out pulmonary metastases. It also tends to rule out large nodes in the mediastinum that may point to a lymphoma.

An upper G.I. series showed poor peristaltic activity and this sheds some light on the patient's presenting symptoms. There was a filling defect in the greater curvature of the body of the stomach measuring 7 cm. in length. The wall of the stomach over a length of approximately 5 cm. appeared fixed and thickened. With this information, one gets the impression that we are dealing with a large, diffuse lesion that could be an adenocarcinoma. It could also be an inflammatory lesion. The duodenal bulb was irritable, small and showed no obstruction. We know that patients having duodenal ulcer lesions, particularly near the pyloric canal, may have delayed emptying of the stomach and a resulting concomitant gastric ulcer lesion. However, this lesion by x-ray does not look like a gastric ulcer secondary to a duodenal ulcer. This looks like a mass-type lesion. The gallbladder series was interpreted as normal. Dr. Armstrong, would you like to show the x-rays at this time?

Fig. 1. Opaque material is present in the gallbladder, stomach, and small intestine. The lower border of the gastric shadow shows ridging upwards.

Dr. Robert H. Armstrong: A hiatus hernia was present, as you suggested. In a frontal projection (fig. 1) of the abdomen with opaque material in the stomach and in the gallbladder, we see a normal looking gallbladder. Both the gallbladder and the stomach are in a high position consistent with the habitus of a fairly obese person. The ligament of Trietz is low in relation to the stomach, but actually, through the ab-

Fig. 2. Spot films of the stomach thickened gastric wall with central ulceration.

dominal soft tissue, we could see no mass projecting down and displacing the intestine. There is normal thickness of gastric wall about the fundus. The area in question shows ridging upward. On oblique projection, we see the large filling defect described in the protocol. It is somewhat circinate, almost nodular and simulates a very thick and very stiff mucosal fold; however, it could represent tumor or inflammatory change with mucosa over it. To me, there is irregular ulceration in the center of this irregular mass (fig. 2). In none of the spot films could the lesion be made to project outside of the stomach wall, suggesting that it may be ulceration in a tumor.

Dr. Zimberg: I do not know what the original x-ray report said, but I would be surprised if it mentioned any diagnosis ahead of carcinoma of the stomach. We are told that gastric washings were negative for tumor cells. I do not request this study very often because, with a mass-type lesion, the patient must be operated upon unless there is some other systemic process contra-indicating surgery. There are other ways to help make a diagnosis of a suspicious gastric lesion. One method is to get a peroral biopsy of the lesion via gastroscope or biopsy capsule. The capsule that the patient swallows has a small opening in the side. You put suction on the catheter ends of the capsule, a piece of mucosa or tumor is drawn into the side of the capsule, you then push an attached obturator and a small biopsy is cut off into the capsule. This might enable you to make a diagnosis prior to laparotomy, and in cases of a systemic disorder, like leukemia, it might associate the gastric lesion with the generalized disease. The Japanese have for a few years used the gastrocamera successfully in cases like this. The patient swallows a small camera that takes pictures of the various areas in the stomach, including the areas that are frequently blind to gastroscopy.

The 12-hour gastric fluid analysis showed that there was free hydrochloric acid of 45°, combined of 28° with a total of 73°. The repetition of the gastric analysis revealed free hydrochloric acid 6 mEq/l, total acid 31 mEq/l, and combined acid 25 mEq/l. The gastric content was positive for blood. Let's examine the finding of blood first. The blood may have been secondary to the trauma of passing the Levine tube or to failure to put a patient on a meat-free diet prior to the test. Why do we get a gastric acid study? I do not think that there is anything that you will find with your gastric analysis that would change your approach to a patient like the one we are discussing in this protocol. We get gastric analyses frequently on patients like this to see if they are truly achlorhydric. If they are achlorhydric to an augmented histamine test, the clinical picture points more strongly to a carcinoma or lymphoma. If a patient were a hyper-secreter and putting out large volumes of gastric fluid with a very high acid content one might think that the patient had an endocrinopathy with secondary ulceration such as occurs in the Zollinger-Ellison syndrome. This was not the case here and with a mass-type lesion, you do not have to worry too much about a gastric analysis other than the fact that it may help you decide on a proper technical procedure once you are in the abdominal cavity. For example, if the patient has a large amount of free acid and if the lesion is benign and a resection is contemplated, the complementary use of a vagotomy might be indicated to prevent secondary marginal ulceration. The use of gastric analysis to indicate severity of ulcer disease is also fraught with danger. The same patient under similar test conditions may have great variations in the output of free acid. We are primarily interested, in cases such as this, of ascertaining whether there is free acid, particularly to maximal histamine challenge, because of the reported high incidence of gastric carcinoma in achlorhydric patients.

I would have gastroscoped and esophagoscoped this patient. I think that this

might contribute important information if we decide to resect his stomach; we probably would like to repair his hiatus hernia, particularly if there is associated esophagitis. We can get some idea by endoscopy as to whether this can be done easily from below the diaphragm or whether there is significant esophagitis making repair more necessary. I would also like to have a barium enema on this patient for several reasons. We would like to know whether the patient had any more polypoid disease in his colon since he has a past history of polyps. We would like to know if there was any abnormality of the transverse colon near the greater curvature of the stomach where this lesion was present by upper G.I. series. We have on several occasions seen gastric lesions produce abnormalities in the transverse colon because of contiguous spread, and we have seen the same thing occur from lesions primarily in the transverse colon that have involved the greater curvature of the stomach. We would have prepared the patient's colon for exploration so that if the care of the gastric lesion was not too complicated, we could have thoroughly investigated the colon again to make sure there were no additional polyps.

There are a number of other diagnostic possibilities besides carcinoma that have to be considered for completeness. These lesions may be benign or malignant. Of the benign lesions, benign neoplasms are the largest and most significant group, and would consist of adenoma, leiomyoma, fibroma, neurogenic tumors, aberrant pancreas, lipoma, angioma and myoblastoma. Adenomas and leiomyomas constitute the bulk of these benign lesions. Occasionally, one sees ectopic pancreas in the stomach which usually present as a polypoid mass as do the adenomas and, occasionally, the leiomyoma. I think it is safe to say that lipomas, angiomas, glomus tumors and myoblastomas could only be diagnosed with the microscope. These would most likely each present as a smooth lesion within the stomach covered by intact mucosa. We must also consider the possibility of benign nonneoplastic processes such as intrinisc and extrinsic inflammatory lesions and intrinsic granulomas. The intrinsic infections consist of syphilis, tuberculosis and fungi primarily. The extrinsic infections that may give x-ray evidence of a gastric are enterocolitis and inflammation associated with pancreatitis. Granulomas encompass eosinophilic granuloma, regional enteritis and reaction secondary to a foreign body. We feel justified in ruling out tuberculosis, fungus infections and syphilis in the absence of other manifestations or information in our clinical protocol. Extrinsic lesions may deform the stomach and give the impression of a primary gastric lesion. We have seen this with pancreatitis and with colitis of the transverse colon.

There have been a few cases reported of eosinophilic granulomas involving the stomach. Occasionally the patient has an elevated eosinophil count and may have a strong allergic history, and may have an associated Loeffler's syndrome, but these may not be present with the primary finding of a visceral eosinophilic granuloma. Usually, however, eosinophilic granuloma of the stomach is not diagnosed until laparotomy when the lesion is taken out. Regional enteritis will rarely involve the stomach and duodenum without other manifestations in the G.I. tract. Foreign bodies in the wall of the stomach, causing associated granulomatous changes, may also produce a lesion that simulates a neoplasm.

Let's now consider the malignant lesions. If one finds a mass lesion in the stomach by x-ray, 95 out of 100 such lesions are going to be malignant. Of those that are malignant, 95% will be adenocarcinomas. What makes up the remaining 5%? Lymphosarcoma, reticulum cell sarcoma, Hodgkin's disease and plasmocytoma will make up 2 to 3%. There have been a number of cases of lymphosarcoma localized to the stomach that have been resected with very good results. As a matter of fact, the five-year survival with resected lymphosarcoma is

considerably better than a five-year survival with adenocarcinoma of the stomach. Occasionally reticulum cell sarcoma of the stomach and Hodgkin's disease localized to the stomach occur without other manifestations. We have also seen one case of an extramedullary plasmocytoma involving the esophagus and stomach. Malignant carcinoids of the stomach may occur, and with metastatic and contiguous lesions and perhaps leukemia, they make up about 1% of the malignant conditions of the stomach. The carcinoid syndrome was not present here, therefore, we do not have any compelling reason to consider carcinoid as a possibility. Metastatic lesions and lesions of the transverse colon may secondarily involve the stomach and may give a picture like the lesions intrinsic to the stomach. Patients with leukemia occasionally get leukemic infiltration of the stomach. Of the sarcomas comprising 1-2% of malignancies of the stomach, the leiomyosarcoma is the most common. The sarcomas that are usually seen surgically are frequently big, bulky lesions.

What do we do with a patient that presents with the findings noted in our protocol after we have carefully reviewed the various other diagnostic possibilities? The patient has to be operated upon. At operation, what do we do? If the patient has obvious lymphadenopathy in the region of the stomach, we biopsy nodes to try to make a diagnosis without incising the stomach directly. If this turns out to be a lymphoma, you excise the gastric lesion widely with associated nodes and give the patient irradiation postoperatively. If the lesion turns out to be an adenocarcinoma, either by node biopsy or primary incision biopsy, you do a wide local excision with associated nodes, realizing that the palliative resections are done for relief of symptoms even if a cure is impossible. Now, if the lesion turned out to be a granulomatous lesion, such as a fungus infection, that involved the greater part of the stomach, you might well be satisfied with your biopsy and then postoperative treatment. Your approach would depend on what you find when you get inside of the abdominal cavity.

As we get down to the end of the cone, what is the best diagnosis to make here? The best diagnosis is still adenocarcinoma of the stomach. This will not be my first diagnosis today, because this ought to be an unusual case, so I would have to dip into the 5% of malignant lesions other than adenocarcinoma and the rare benign lesions. I would first choose a lymphoma, such as a lymphosarcoma, and second, I would select a granulomatous process, such as eosinophilic granuloma.

Ward Diagnosis:

Adenocarcinoma of the stomach
? Lymphosarcoma of the stomach
? Carcinoma of the pancreas with extension to the stomach

Dr. Yale Zimberg's Diagnosis:

Lymphosarcoma of the stomach
? Eosinophilic granuloma of the stomach

Pathological Discussion

Dr. David S. Borland: As Dr. Zimberg pointed out, adenocarcinoma of the stomach is far and away the most reasonable diagnosis to make in this case. He was supported by the radiologist, the attending surgeon and by two pathologists who examined the frozen section of the lesion at the time of the operation. To augment the reasons for this diagnosis, Dr. A. P. Stout[3] found that peptic ulcers almost never occur in the greater curvature of the stomach while carcinomas, although more common on the lesser curvature, occur quite commonly on the greater as well. In a similar study here much the same thing was true. So the location of the lesion in this case strongly favors carcinoma. We also found that benign ulcers averaged about 2 cm. in diameter while carcinomas averaged 6 cm. in diameter so the bulkiness of the lesion further supports the diagnosis of carcinoma.

We might as well get out the diagnosis now to end the confusion or perhaps augment it since the condition has several names. So far as I know the first name given to it was "gastric submucosal granuloma with eosinophilic infiltration". [4] Other

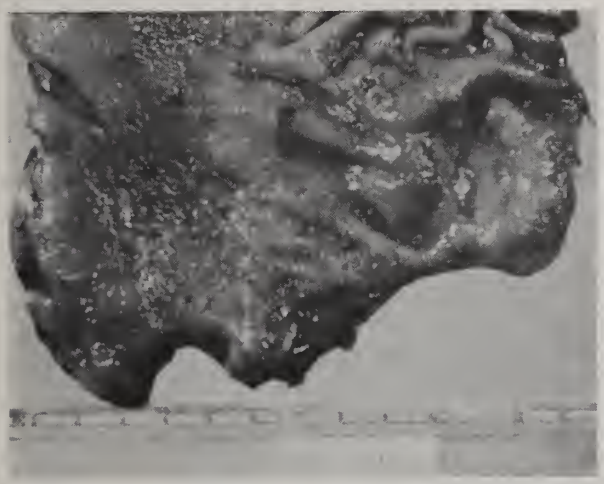


Fig. 3. The stomach has been opened along the greater curvature. The suspect ulcer is shallow and adjacent to it the rugae are flattened. The wall was thick, white and firm.

terms have been "eosinophilic granuloma", "granuloma with eosinophils" and "the gastric lesion of Loeffler's syndrome". The latest term which was coined by Dr. Lattes[5] is "inflammatory pseudotumor of the stomach". This terminology was used by Dr. Burkhart and Dr. Wilkinson[6] when they reported two other cases from the Medical College of Virginia.

There was a flattened, slightly protuberant, irregular thickened area on the greater curvature of the stomach (fig. 3), which extended into both anterior and posterior walls. An irregular 3.5 cm. shallow ulcer lay in the center of the thickening and the stomach felt quite immobile as suggested by the roentgenograms. This picture of a shallow, shelving ulcer in the center of a raised, fibrosed area strongly suggests malignancy. Benign ulcers are generally punched-out, clearly defined areas without significant surrounding induration.

Histologically, benign peptic ulcers have precipitous margins with marked underlying fibrosis. There is replacement of the submucosa and generally the muscularis propria by fibrous tissue. The change from muscle to fibrous tissue is abrupt and there is no undermining of the normal mucosa by fibrous or granulation tissue.

Our ulcer is different. It has shelving rather than punched-out edges. You will note that the submucosa, ordinarily a thin fatty layer, is tremendously thickened and is composed of fibrous tissue. The fibrosis is not confined to the base of the ulcer but extends out under the adjacent mucosa (fig. 4) producing the induration that was found grossly. The fibrous tissue is moderately vascular and is infiltrated with

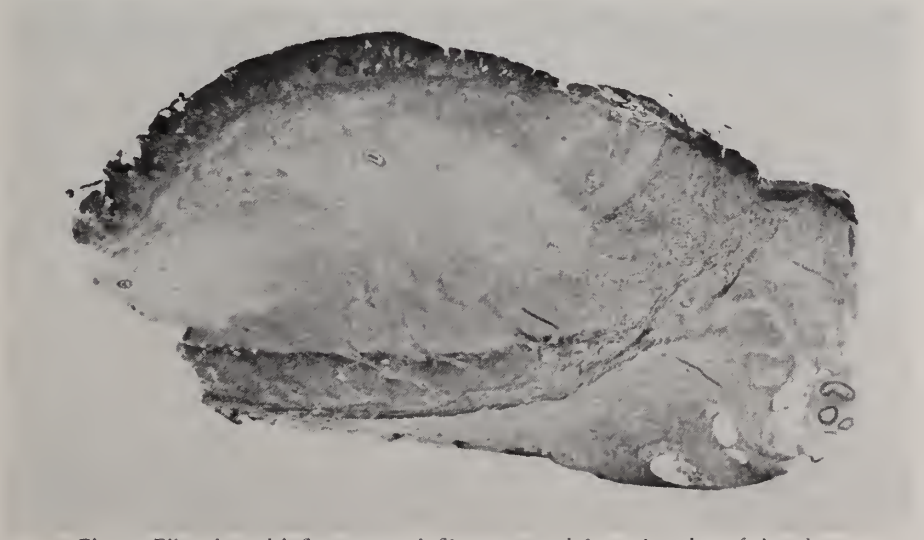


Fig. 4. Fibrosis and inflammatory infiltrate extend from the edge of the ulcer (right) under the adjacent mucosa producing marked induration.

lymphocytes, large numbers of plasma cells and in several areas, foci clusters of eosinophils (fig. 5). The muscularis propria is not involved to any great degree.

It is then apparent that our lesion is neither a peptic ulcer of the usual type or a carcinoma. Rather, it appears to be an overgrowth of vascular fibrous tissue which has replaced the submucosa. The ulcer is shallow and is a relatively unimportant histologic feature.

The proliferation of fibrous tissue can be so marked that some of these lesions appear as polypoid intraluminal masses looking much like that benign, smooth muscle tumor, the leiomyoma. These for practical purposes are tumors of fibrous and granulation tissue and may produce obstruction of the pylorus. The paper by Burkhart and Wilkinson[6] presented one of the protuberant type and one of the infiltrating type.

The cause of this lesion is unknown. The presence of eosinophils and plasma cells suggests allergy but usually there is no other evidence to support this. It has been seen associated with Loeffler's syndrome but rarely so. It seems to be a peculiar inflammatory process but the causative agent is not known.

There seems to be no way to arrive at a diagnosis short of surgical intervention. If the surgeon and pathologist think of inflammatory pseudotumor, the diagnosis can usually be made by frozen section. A subtotal gastric resection is adequate treatment.

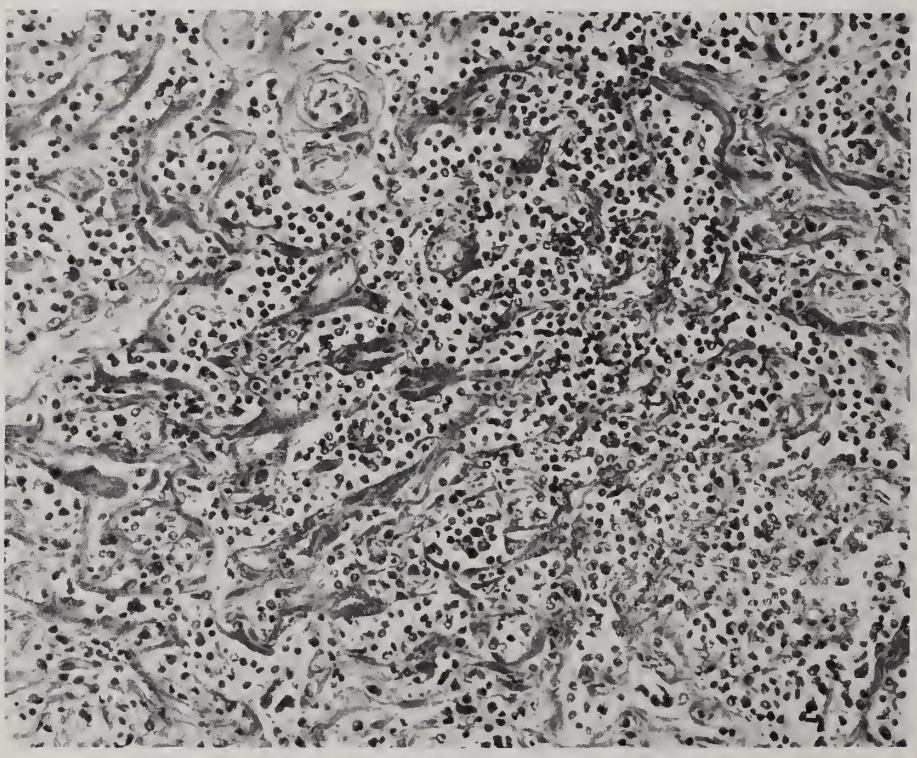


Fig. 5. In some areas, vascular fibrous tissue and a variety of inflammatory cells replaced the submucosa and muscle wall.

Dr. Zimberg: What do you think is the natural course of this disease?

Dr. Borland: I don't know since most of the diagnoses have been made on resected specimens and these patients have generally done well. Small ulcers with limited fibrosis have been described and these might well clear on medical management. I think that the only satisfactory therapy for a lesion as large as this one is surgical. The ulcer might heal on medical treatment but the fibrosis and resultant immobility would not regress.

Dr. John H. Moon: Isn't the name eosinophilic granuloma confusing?

Dr. Borland: Yes, it is, and that is why

we have called it "inflammatory pseudotumor". This is descriptive and indicates that this is an inflammatory process. The lesion is not related to the eosinophilic granuloma of bone or the "histiocytosis X" group of lesions.

PATHOLOGICAL DIAGNOSIS:

Inflammatory pseudotumor of the stomach.

REFERENCES

1. Alvarez, W. C.: An Introduction to Gastroenterology. Paul B. Hoeber, Inc., New York, 1939.
2. Redd, B. L., Jr.: Lymphosarcoma of the Stomach. Review and Case Reports. Am. J. Roentgenol. 82:634, 1959.
3. Stout, A. P.: Tumors of the Stomach. Bull. New York Acad. Med. 23:101-108, 1947.
4. Vanek, J.: Gastric Submucosal Granuloma with Eosinophilic Infiltration. Am. J. Path. 25: 397-411, 1949.
5. Lattes, R. and Stout, A. P.: Seminar on Clinical Pathology, Houston Society of Clinical Pathologists, March 2, 1963.
6. Burkhart, C. R. and Wilkinson, R. H., Jr.: Inflammatory Pseudotumors of the Stomach. Cancer 18:1310-1316, 1965.

Five Meals Daily

Every day at University of Alabama Hospitals and Clinics 653 patients eat five meals a day as part of a new hospital policy that makes the institution one of the largest in the nation to serve "five-a-day".

The change in feeding schedule began October 16th, and a pilot study began June 13th with 27 patients on a floor composed of surgical and medical patients. On the basis of the success of the pilot study and a recommendation from the Patient Day Committee of the Chiefs-of-Service of University Hospital, the plan became a reality for most of the hospital. Five-a-day applies to the 653 of the 699 patients in the hospital complex.

The hospital has found great interest in the program both from patients and those in the health professions.

What are the advantages of five meals a day? One is improved morale. Another is elimination of breakfast hold trays for patients who have diagnostic tests scheduled for early morning hours. Many return from their tests in time for the 10:30 a.m. brunch. It also assures a newly admitted patient of a meal soon after arrival and patients to be discharged leave soon after a meal. The latter has improved discharge procedure and attitude of patients.

The five meals a day include:

7 a.m., continental breakfast—fruit juice, breakfast roll or toast, dry cereal with milk and coffee; 10:30 a.m. brunch—bacon, sausage, etc., eggs, grits, mixed meat or poultry dish, salad, hot bread or toast and beverages; 2:30 p.m. meal—cup of hot soup, meat sandwich or cold plate, dessert, beverage; 6 or 6:30 p.m. dinner—appetizer, choice of entree, potatoes or rice, choice of vegetable, salad, dessert, bread, beverage; 9 p.m. bedtime feeding—juice, milk, cheese, crackers, cookies.

Mental Health . . . .

EDNA M. LANTZ

Mental Hygiene Clinic Activities

The twenty-seven mental hygiene clinics reported to the Department of Mental Hygiene and Hospitals for the year ending June 30, 1966, a total of 9,714 referrals, an increase of 1058 or 12.2% over the year ending June 30, 1965. Part of this increase was due to the opening of a clinic at Clifton Forge in August 1965 and the addition to the reporting by the University of Virginia Hospital Mental Hygiene Clinic—January 1966.

There was a total on record for the fiscal year ending June 30, 1966, of 15,504 patients, an increase of 1,988 over the 1965 fiscal year.

There were 120,020 clinic visits by patients and collaterals during the year, averaging eight visits per patient on record.

There was an increase in source of Referrals for Welfare and Health Depart-

SUMMARY OF OUT-PATIENT ACTIVITIES FOR YEAR ENDING JUNE 30, 1966

VIRGINIA DEPARTMENT OF MENTAL HYGIENE AND HOSPITALS

		Referrals				
	On Books July 1, 1965	New	Re-opened	Total	Closed	On Books June 30, 1966
Total	5,790	7,627	2,087	15,504	8,185	7,319
Alleghany	.....	114	7	121	28	93
Alexandria	325	235	87	647	391	256
Arlington	326	229	48	603	272	331
Atlantic	391	362	118	871	418	453
Bristol	174	244	32	450	198	252
Charlottesville	27	108	53	188	145	43
Danville	123	238	52	413	328	85
Educational Therapy	62	58	22	142	89	53
Fairfax	550	372	74	996	191	805
Fredericksburg	93	212	95	400	267	133
Loudoun	52	150	45	247	181	66
Lower Peninsula	156	203	72	431	255	176
Lynchburg	175	166	73	414	223	191
Medical College	529	448	99	107	291	785
Memorial Guidance	331	317	91	739	410	329
Mobile	106	330	187	623	505	118
Mountain Empire	82	200	7	289	190	99
Norfolk	594	1,078	205	1,877	1,103	774
Northwestern	148	125	50	323	160	163
Patrick Henry	87	125	57	269	156	113
Portsmouth—Community	137	288	89	514	385	129
Richmond Area	401	281	239	921	573	348
Roanoke	428	230	37	695	287	408
Southside	239	376	75	690	429	261
Tidewater	168	347	71	586	393	193
University of Virginia	.....	703	71	299	182	117
Valley	86	88	31	205	135	70

LANTZ, EDNA M., *Statistician, Department of Mental Hygiene and Hospitals, Richmond.*

Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

ments, Physicians and Medical Agencies (general hospitals, health clinics.) Family and School referrals decreased and Courts remained the same for the year ending June 30, 1966 compared to the year ending June 30, 1965.

Patients referred by mental institutions primarily for after-care, increased from 712 in 1965 to 962 in 1966, an increase of 250 or 35%. The number of referrals from mental institutions was 10% of total referrals.

SUMMARY OF OUT-PATIENT ACTIVITIES FOR YEAR ENDING JUNE 30, 1966—CONTINUED

VIRGINIA DEPARTMENT OF MENTAL HYGIENE AND HOSPITALS—Continued

	Sources of Referral								
	DPW and Health	Physicians	Med-Agency	Family	Schools	Courts	Mental Inst.	Other Soc. Agency	Other
Total	1,515	1,522	993	1,926	1,283	373	962	298	367
Alleghany	60	40	.....	7	8	4	4	.....	6
Alexandria	18	53	40	73	46	25	48	6	13
Arlington	13	49	37	81	35	11	31	12	7
Atlantic	39	115	31	154	39	34	23	9	35
Bristol	74	103	6	46	16	14	10	.....	7
Charlottesville	39	17	11	42	38	4	3	4	3
Danville	72	16	1	28	138	16	11	.....	8
Educational Therapy	7	1	3	12	38	10	2	3	2
Fairfax	37	75	43	101	58	26	64	13	26
Fredericksburg	60	55	7	73	26	3	68	4	11
Loudoun	26	40	.....	49	49	13	9	.....	8
Lower Peninsula	26	55	44	52	34	43	3	12	6
Lynchburg	42	39	2	51	33	24	30	6	11
Medical College	22	89	287	80	3	3	6	15	42
Memorial Guidance	54	79	19	69	121	20	.....	33	13
Mobile	516	.....	.....	.....	.....	.....	.....	.....	.....
Mountain Empire	45	20	.....	30	90	1	5	.....	12
Norfolk	89	210	273	408	126	63	5	68	41
Northwestern	15	69	3	29	12	.....	33	.....	14
Patrick Henry	25	28	1	14	27	1	68	9	9
Portsmouth—Community	62	72	34	138	31	10	10	10	10
Richmond Area	7	16	11	97	1	4	353	11	19
Roanoke	22	31	3	41	32	10	64	64	9
Southside	52	122	19	92	106	10	18	16	16
Tidewater	61	28	10	76	163	6	56	2	16
University of Virginia	31	63	102	37	3	10	32	1	21
Valley	1	37	6	46	10	8	6	.....	2

Note: The after-care program operated by special after-care clinics are not included.

The accompanying statistical table gives a summary analysis of the clinic program by each clinic for the year ending June 30, 1966.

Nonspecific Urethritis

Nonspecific urethritis is a term that has been utilized to describe any urethritis in which the gonococcus organism cannot be found to be the etiology agent.

Urethritis may be separated into two major divisions: the condition in which no specific cause for the discharge can be found, and those secondary to a host of pathogenic and traumatic causes that follow or are the result of a wide variety of bacterial invaders. In the first category may be grouped abacterial urethritis, Reiter's primary abacterial urethritis associated with bilateral conjunctivitis and polyarthritis) and oculomucocutaneous syndromes that are accompanied by urethritis.

In a large percentage of individuals with acute or chronic urethral discharge, although suspected of having gonorrheal infection, demonstration of Neisseria is not possible. Many of these cases are treated as gonococcal infections and it is only when the infection persists, subsequent to a variety of therapeutic measures, that the abacterial nature may be recognized.

Other specimens of urethral discharge may have large numbers of small, gram-negative, pleomorphic bacilli, which vary in morphology from bacilli to cocci that occur in pairs. These organisms may be intra and extra cellular and but for their size, might be confused with N. gonorrhoeae. The culture of such organisms is difficult and their identity uncertain. It has been estimated that the etiology of 80% of cases diagnosed as nonspecific urethritis is abacterial.

Some forms of nongonococcal urethritis are presumably venereal in origin. The widespread replacement of gonorrhea by these nongonococcal infections has created a growing problem in venereal disease control.

The *acute* abacterial urethritis usually follows one to five days after intercourse. A profuse discharge occurs with reddening of the meatus and accompanying dysuria. The clinical picture is so similar to that in gonorrhea that it is confusing when Neisseria are not demonstrable.

The *subacute* form may develop primarily or follow the *acute* stage. This is the Welsch type. The incubation period subsequent to coitus is longer, but within one month, discharge is more serious and symptoms are milder. For both types, involvement of the posterior urethra may cause prostatitis or seminal vesiculitis.

The etiologic agent of nongonococcal urethritis certainly is not a single one. Apart from surgical conditions of the genitourinary organs, e.g. urethral stricture, chemical, and mechanical irritants as well as microorganisms of different kinds may be of importance in causing the disease.

The possibility of the condition being of an allergic nature has also been suggested especially in those cases where the urethritis forms a part of Reiter's syndrome.

The development of urethritis in patients with diabetes and gout is apparently dependent upon a metabolic disturbance of the mucous membrane. In the urethra such a change permits the normal bacterial flora to become pathogenic.

Trichomonas vaginalis is an important cause of urethritis also. It is difficult to determine whether the Trichomonad is etiologic for two reasons: firstly where it is found in a case of urethritis, most commonly bacterial flora will be seen also; secondly Trichomonads have been demonstrated so frequently to reside in normal male urethras. Since Trichomonas vaginalis does not penetrate the mucous membrane, only surface irritation can be postulated as causing urethritis.

Among the microorganisms in recent years, special attention has been directed towards one group, the mycoplasma. The first member of these organisms was discovered in 1898 as the causative agent of pleuropneumonia bovis, a contagious disease of cattle. A number of similar organisms, both saprophytic and parasitic have been found subsequently and have been grouped together and called pleuropneumonia-like organisms (PPLO). These organisms appear to be between the viruses and the richettsiae on the one hand and bacteria on the other. Following the first isolation of a member of the pleuropneumonia group from a human being (1937), several reports have been published concerning the occurrence of such organisms in the male and female genito-urinary organs under normal and pathological conditions. They have been demonstrated to occur very frequently in women suffering from pelvic inflammatory disease, but they have also been cultured, although less frequently from the normal vagina and cervix. In the male, they have been observed largely in association with disorders of the genito-urinary tract.

In 1946, Beveridge obtained positive cultures from 20 of 70 men with nongonococcal urethritis, but from none of 67 healthy medical students. The incidence of pleuropneumonia-like organisms in urethral specimens from 188 men in another study is shown below:

Malen and Odeblad (1952) recovered the organisms from five of thirty-two healthy married women and from one of thirteen healthy unmarried virgins. It seems clear that this organism may be present in the urethra without causing any symptoms.

Group of Subjects	Number of Subjects	Number of Subjects with Positive Cultures	Percentage of Subjects with Positive Cultures
I Patients with non-gonorrheal urethritis (mean age 29 years)	61	11	18.1
II Patients with untreated gonorrheal urethritis (mean age 26 years)	31	1	3.2
III Patients with successfully treated gonorrheal urethritis (mean age 28 years)	36	3	8.3
IV Healthy volunteers (mean age 21 years)	60	10	16.6
Total	188	25	13.2

Apart from the pleuropneumonia-like organism, several other bacteria were isolated such as coagulase negative Staph. albus, diphtheroids, anaerobic streptococci, enterococci, E. coli, aerobacter aerogens, B. proteus, Bacteroides and Neisseria other than gonococci. In a few cases (all negative for pleuropneumonia-like organisms) there was growth of coagulase-positive Staph. aureus or Candida albicans.

Pleuropneumonia-like organisms isolated from urine are considered by some investigators to be the etiological agents responsible for the triad of symptoms of Reiter's syndrome. Reiter's disease and the oculomucocutaneous syndromes vary so little in their urethral manifestations from primary abacterial urethritis that at present they are thought to represent merely varied manifestations of a single virus entity. In all of these conditions demonstrations of inclusion bodies and pleuropneumonia "L"-shaped organisms have been mentioned as occurring frequently. In the Reiter's syndrome, the urethritis occurs subsequent to coital exposure and the incubation period is reported to be five to thirty days. The urethritis is most frequently subacute and usually devoid of organisms; the discharge being clear and viscid. A few days later conjunctivitis occurs, first unilateral, then bilateral; usually in ten days to two weeks arthritis supervenes. The urethritis and conjunctivitis may subside quickly and spontaneously, but the arthritis frequently persists for several months.

As early as 1939, DeBord had described a new tribe of organisms isolated from venereal and conjunctival tissues also. The organisms he named Mimae because of their ability to mimic other organisms including Neisseria in morphology, staining reactions and culture characteristics.

In 1942, he described three genera of Mimae distinguished by their abilities to ferment carbohydrates.

I. Mimae
   M. polymorpha
   M. polymorpha var. oxidans
II. Herellea
   H. vaginicola
III. Colloides
   Cl. anoxydana

It has become increasingly important to take added precautions in the presumptive identification of gonorrhea on the basis of a smear due to a similarity of certain strains of Mimae to Neisseria organisms. DeBord found that since the microscopic pictures of the tribe Mimae and of the genus Neisseria may be identical " - - - the identification of N. gonorrhoeae by smears - - - is not justified". M. polymorpha var. oxidans can interfere in the cultural method when tests are made presumptively by the oxidase test for the presence of Neisseria.

A number of studies followed which implicated the Mimae as the cause of various infectious diseases, venereal in particular. Deacon in 1945 isolated M. polymorpha resembling the Neisseria by smear and oxidase reactions from patients with "therapy resistant gonorrhea". In no occasion was N. gonorrhoeae proved to be completely resistant to penicillin, and when such resistance has been claimed, no attempt was made to rule out the Mimae. When a case of urethritis resembling gonorrhea fails to respond to adequate treatment with penicillin, members of the tribe Mimae must be suspected as the causative organism.

Some authors have listed the vagina as a source of Mimae and have established the role of these organisms in urethritis.

Differentiation may be made on meat extract agar, enriched broth or EMB media on which Mimae and Herellea assume their rod-like form and on which the gonococcus does not grow. Further biochemical differentiation is often needed. When gonococcal fluorescent antibody procedures are available, differentiation is rapidly made.

Treatment is generally unsatisfactory for the pleuropneumonia type of urethritis. Prior to the antibiotic era, various gold compounds were found to be effective in preventing PPLO arthritis and encephalitis in mice and rats. Streptomycin shows greater and more uniform inhibitory action *in vitro* than does dihydrostreptomycin. That PPLO can develop drug resistance was demonstrated when a streptomycin-sensitive strain became streptomycin-resistant during therapy.

The urethritis caused by the tribe Mimae is resistant to penicillin but sensitive to broad spectrum drugs.

References

1. Burn, Edgar and Thompson, I.: Urology, Campbell, 1:520, 1964.
2. Morton, Harry E.: Bacterial and Mycotic Infections of Man. Dubos and Hirsch, 795, 1965.
3. Neugebauer, D. L., Ino, James and Lucas, R. N.: Isolation of Mimae Polymorpha Var. Oxidans from Patients with Urethritis and a Clinical Syndrome Resembling Gonorrhea. Am. J. Clin. Path. 32:364, 1959.
4. Svihus, R. H., Lucero, E. M. and Mikolajizyh, R.: Gonorrhea-like Syndrome Caused by Penicillin-Resistant Mimae. J.A.M.A. 177:121, 1961.
5. Anderson, T. G., and MacCrea, L. E.: Viruses as the Etiologic Agents of Urinary Tract Infections. J. Urol. 90:92, 1963.
6. Pleuropneumonia-like Organisms in Cases of Nongonococcal Urethritis in Man and in Normal Female Genitalia. J. Ven. Dis. Information, Current Literature. 27-28:166, 1946.

Olga Pestana, M.D.

Division of Clinical Pathology
Medical College of Virginia
Richmond, Virginia

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Planning New Medical Programs

II. Regional Medical Programs
(Heart, Cancer, and Stroke)

The Regional Medical Program, more popularly known as the Heart Disease, Cancer, and Stroke Program, is the outgrowth of the President's concern that the latest information and techniques in the diagnosis and treatment of these conditions be made available throughout the Nation. As a result of his concern, the President appointed a blue ribbon commission of physicians, educators, and interested laymen to study the situation and make recommendations. This commission was headed by Dr. Michael DeBakey of Houston, Texas.

The report of the DeBakey Commission included thirty-four recommendations under five major headings, briefly summarized as follows:

1. *National Network for Patient Care, Research, and Teaching in Heart Disease, Cancer, and Stroke,* including the development of regional centers for diagnosis and treatment.
2. *Application of Medical Knowledge in the Community,* including community planning grants, community health research and demonstration, a National Cervical Cancer Detection Program, continuation education of the health professions, and public information programs in heart disease, cancer, and stroke.
3. *The Development of New Knowledge,* including the development of biomedical and specialized research centers.
4. *Education and Training of Health Manpower,* including recruitment for the health professions and continuous assessment of health manpower needs.
5. *Additional Facilities and Resources,* including grants for medical libraries, a National Medical Audiovisual Center, and statistical programs.

The Commission also recommended appropriations for the above programs in the amount of $356.7 million in the first year, with yearly increases to a total of $739.25 million in the fifth year.

The report of the DeBakey Commission, therefore, was a rather ambitious undertaking, involving the expenditure of large sums of money. It put the responsibility for carrying out the objectives in a number of agencies, both official and voluntary.

Provisions of the Law

Public Law 89-239, as passed in October, 1965, falls far short of covering all of the recommendations of the DeBakey Commission and gives primary responsibility to the medical schools, research institutions, and hospitals. The law specifies the following intent:

"(a) Through grants, to encourage and assist in the establishment of regional cooperative arrangements among medical schools, research institutions, and hospitals for research and training (including continuing education) and for related demonstrations of patient care in the fields of heart disease, cancer, stroke, and related diseases;

"(b) To afford to the medical profession and the medical institutions of the Nation, through such cooperative arrangements, the opportunity of making available to their patients the latest advances in the diagnosis and treatment of these diseases; and

"(c) By these means, to improve generally the health manpower and facilities available to the Nation, and to accomplish these ends without interfering with the patterns, or the methods of financing, of patient care or professional practice, or with the administration of hospitals, and in cooperation with practicing physicians, medical center officials, hospital administrators, and representatives from appropriate voluntary health agencies."

The law authorized appropriations of $50 million for the year ending in June, 1966, $90 million for the year ending in June, 1967, and $200 million for the year ending in June, 1968, for "grants to assist public or nonprofit private universities, medical schools, research institutions, and other public or nonprofit private institutions and agencies in planning, in conducting feasibility studies, and in operating pilot projects for the establishment, of regional medical programs of research, training, and demonstration activities for carrying out the purposes of this title." Only $25 million of the amount authorized was actually appropriated.

There is *no* provision for the construction of regional complexes or diagnostic and treatment stations. The only construction money available is for demonstration projects, in which case only 90% of the cost may be paid with Federal funds.

The law specifies that the program may not interfere with the present patterns of practice and, further, that no funds are appropriated for patient care except in a demonstration project. Patients furnished care in a demonstration project must be referred by a practicing physician.

PL 89-239, therefore, provides principally for a program of continuation education and demonstration projects on the latest advances in the treatment of heart disease, cancer, stroke, and related diseases.

At the Federal level the administration of this program was placed in a new Division of Regional Medical Programs within the National Institutes of Health. This Division is headed by Robert Q. Marston, a native of Toano, Virginia, a graduate of the Virginia Military Institute and the Medical College of Virginia School of Medicine, a Rhodes Scholar, and a former Assistant Dean of Medicine at the Medical College of Virginia.

Planning in Virginia

Beginning in the fall of 1965 there occurred a series of meetings between interested parties, first at the University of Virginia, then at the Medical College of Virginia, culminating in a combined meeting in Richmond with representatives of the two medical schools, the Norfolk Area Medical Authority, and the State Department of Health. At the request of this group, and in keeping with the requirement of the law, the Governor was requested to name a State-wide planning committee. In December, 1965, Governor A. S. Harrison, Jr., appointed the Governor's Advisory Committee for Planning for Regional Medical Programs in Virginia, and in May, 1966, Governor Mills E. Godwin, Jr., asked the committee to remain in force. Membership and representation on the committee are as follows:

1. Practicing Physicians
   (a) Lloyd B. Burk, Jr., Arlington, a practitioner of surgery; also represents the Virginia Division of the American Cancer Society and the area of Northern Virginia.
   (b) Donald R. Holsinger, Martinsville, a practitioner of medicine; also represents the Virginia Heart Association and the area of Southern Virginia.
   (c) William J. Hagood, Jr., Clover, a practitioner of medicine; also represents The Medical Society of Virginia.
2. Medical Center Officials
   (a) Mason C. Andrews, M.D., Nor-

folk Area Medical Center Authority.

(b) Kenneth R. Crispell, M.D., University of Virginia School of Medicine.

(c) Kinloch Nelson, M.D., Medical College of Virginia School of Medicine.

3. Hospital Administrators

(a) William H. Flannagan, Roanoke, Virginia Hospital Association

4. Representative of "other organizations concerned with activities of this kind."

(a) Mack I. Shanholtz, M.D., State Health Commissioner (designated by the Governor to act as chairman of the committee)

5. Public Members

(a) Ralph Beachley, M.D., Arlington, representing Northern Virginia.

(b) Thomas C. Boushall, Richmond, representing Central Virginia.

(c) Sol W. Rawls, Jr., Franklin, representing Southeastern Virginia.

(d) Volney Campbell, Abingdon, representing Southwestern Virginia.

(e) Robert I. Fletcher, Newport News, representing the Peninsula and the Virginia Heart Association.

(f) Oliver W. Hill, Richmond, representing the State at large.

The Governor's Advisory Committee and its executive committee have met on several occasions and have established certain principles for future planning. It is the Committee's intention to emphasize the continuation education aspects of the program, working in cooperation with local hospitals and medical societies. It is the Committee's further intention to consider the whole State of Virginia as a "region" with the understanding that certain areas, i.e., Northern Virginia and Southwest Virginia, may, for reasons of geography or previous affiliations, prefer to participate in the programs of other regions. The Committee also is seeking a physician to serve as executive director of the program on a full-time basis.

The principal effort of the Governor's Committee has been the drafting of an application for planning funds. The preliminary copy of this application has been submitted to the Division of Regional Medical Programs with the understanding that refinements will be necessary before final action is taken. The application requests funds for the employment of a full-time director and the necessary staff to work with the Departments of Continuation Education at the two medical schools and with the local medical societies and general hospitals in developing a plan to carry out the intent of this legislation.

The Medical Society of Virginia has appointed a Committee on Heart, Cancer, and Stroke, with one representative from each district. It is the Society's plan to work with local components through these district representatives. The executive committee of the Governor's Advisory Committee has had one meeting with the Medical Society's committee.

An outline of the action and planning to date was presented to the Governing Council of The Medical Society of Virginia on September 24, 1966. The Council endorsed the plans of the Governor's Advisory Committee, with the understanding that this would not involve any financial obligation on the part of the Society.

Summary

In Virginia we have a working committee appointed by the Governor, the approval of the Governing Council of The Medical Society of Virginia, and a preliminary application for a planning grant.

As far as Federal legislation is concerned, there seems to be nothing on the horizon to supplement the recommendations of the DeBakey Commission. The law requires, however, that a report of progress be made to the Congress in 1969.

The Medical Society of Virginia . . . .

Council Minutes

A meeting of the Council of The Medical Society of Virginia was called to order by Dr. Alexander McCausland, President, at 10:00 A.M. on Sunday, November 6, 1966, at the Williamsburg Lodge. Attending were: Dr. K. K. Wallace, Dr. McLemore Birdsong, Dr. Hunter H. McGuire, Jr., Dr. Mack I. Shanholtz, Dr. W. Callier Salley, Dr. F. Ashton Carmines, Dr. Mallory S. Andrews, Dr. Thomas W. Murrell, Jr., Dr. A. Tyree Finch, Dr. W. Nash Thompson, Dr. Harry B. Stone, Jr., Dr. Dennis P. McCarty, Dr. W. D. Liddle, Dr. W. W. Walton and Dr. Michael A. Puzak. Also attending were: Dr. William Grossmann, 3rd Vice-President; Dr. Thomas S. Edwards, Vice-Speaker of the House; Dr. Vincent W. Archer, Dr. W. Linwood Ball and Dr. Allen Barker, Delegates to the American Medical Association; Dr. Russell M. Cox, Secretary-Treasurer of the State Board of Medical Examiners; Dr. Kinloch Nelson, Dean, Medical College of Virginia; and Mr. Richard Nelson, Field Service Representative, American Medical Association.

Dr. Walter Porter, Chairman of the Finance Committee, presented the proposed budget for fiscal 1966-67. He pointed out that the Committee had made a real effort to present a balanced budget.

Only one item came in for any lengthy discussion, and that had to do with the Society's annual contribution to the AMA Education and Research Foundation. The Committee had proposed that the amount be reduced from $2,000 to $1,000.

A motion by Dr. Walton that the matter be studied and considered at a later date by Council was seconded. A substitute motion by Dr. Birdsong that the contribution be increased to $2,000 and designated for Virginia's two medical schools was ruled out of order. Dr. Walton's motion was then defeated.

Dr. Birdsong then again introduced a motion requesting that the contribution be increased to $2,000 and that Virginia's two medical schools be designated as recipients. The motion was seconded and carried.

Discussion then centered on a request by the Virginia Steering Committee on Mental Health that The Medical Society of Virginia endorse and help defray the expense of the upcoming Second Mental Health Congress. The sum of $500 was requested.

Dr. Wallace reported that he had discussed the Congress with a number of people and found that most were in favor. He went on to say, however, that this should be the last contribution the Society would make for such purpose. *He then moved that $500 be authorized for the Second Mental Health Congress, and that it be the last such contribution. The motion was seconded and adopted.*

The remainder of the budget was approved as presented by the Finance Committee. The complete budget may be found in the minutes of the Second Session of the House of Delegates.

Council was then advised that, in keeping with its request of October 2, Mr. Miller had delivered an opinion on whether a joint billing with VaMPAC —featuring a grand total—was advisable. Mr. Miller had stated that, in his opinion, such a billing (with grand total) would identify The Medical Society of Virginia more closely with VaMPAC in all its activities, both educational and political, and thereby possibly subject us to a threat of legal action.

Dr. Grossmann stated that, in view of Mr. Miller's opinion, VaMPAC would withdraw its request for such a billing. *Dr. McCarty then moved that there be no change in the billing procedure currently employed. The motion was seconded and carried.*

Dr. Walton reported that members of the Russell County Medical Society had indicated their wish to abolish that Society's charter and affiliate instead with the Southwestern Virginia Medical Society. The Russell County group has not been active, and the proposed move was viewed as a step in the right direction. *A motion by Dr. Birdsong that the Russell County request be granted was seconded and adopted.*

Next on the agenda was a proposal that the annual subscription rate for the Virginia Medical Monthly be increased to $4.00. It was learned that the present rate of $2.00 had existed for many years, and that it was quite impossible to break even at that figure. *It was the consensus that the proposed increase was very much in order and a motion by Dr. Walton to raise the subscription rate to $4.00 was seconded and adopted.*

Dr. Nelson acquainted Council with an experiment in Georgia which he believed could have beneficial results in Virginia. This would involve an annual meeting between representatives of our two medical schools and The Medical Society of Virginia for the purpose of discussing mutual problems.

Dr. Murrell had looked into the matter and found that the Medical Association of Georgia had arranged the first such session in that State and planned to do it again. Fifteen physicians were invited from each medical school and thirty from the medical society. The session featured a dinner, followed by various group study sessions. An evaluation was presented on the following day. Society officials in Georgia were of the opinion that such sessions had much to recommend them from the long-range point of view. The only expense entered into by the society was the cost of the dinner.

Dr. Murrell then moved that the incoming President appoint a special committee to explore the possibilities of such a joint session and report its recommendations at the next meeting of Council. The motion was seconded and adopted.

Dr. William G. Thurman, Chairman, Department of Pediatrics, University of Virginia School of Medicine, was introduced and invited to discuss the University's program of comprehensive health care for children. It was learned that when the program first started, there existed some misunderstanding as to its objectives and methods of operation. The program is financed through a "Developmental Grant" and seeks to determine "whether or not it is feasible to attempt better preventive medicine in the pediatric age group as well as to improve the calibre of service in both the treatment and diagnostic fields in addition to preventive medicine."

Council learned that the concern in certain localities was that the University of Virginia School of Medicine was primarily interested in treating acute conditions. Dr. Thurman stated that he had visited the localities concerned and believed that any confusion and misunderstanding had been eliminated. He believed that periodic meetings with local medical societies is necessary to answer any questions which might arise and reduce misunderstanding to the barest minimum.

Dr. Shanholtz indicated that the University's program is in many ways an extension of Health Department programs which have been in existence for some time. There is no overlapping, however, and Dr. Shanholtz believed the program was making a definite contribution.

Dr. McCarty moved that Council accept Dr. Thurman's report and commend him for bringing the matter to its attention. The motion was seconded and carried.

Dr. Thompson led discussion on a request by the Woman's Auxiliary to The Medical Society of Virginia that the Society's annual contribution to AMA-ERF be routed through the Auxiliary for credit purposes. Brought out was the fact that many state auxiliaries concentrate on AMA-ERF, while in Virginia numerous projects are supported at both the local and state levels. Consequently, Auxiliary members in Virginia show an average contribution of $1.57 as compared with the national average of $3.59.

A motion was introduced by Dr. Thompson which would have The Medical Society of Virginia annually supplement the contribution of its Woman's Auxiliary to AMA-ERF. The motion would further request members of the Society to send their individual contributions through the Auxiliary for credit purposes. The motion was discussed at length and concern was expressed that The Medical Society of Virginia would be losing credit for its own contribution. It was agreed that the Society is not in a position to make a sizable contribution for both groups. The motion was lost.

Considered next was another request from the Auxiliary—this one having to do with the inclusion of Auxiliary dues on the Society's annual dues statement. *Dr. Thompson moved that the Society comply with the request and include on its annual statement Auxiliary dues in the amount of $4.00. The statement would contain the notation that Auxiliary dues are not compulsory for the physician to belong to The Medical Society of Virginia. The motion was seconded and carried.*

The Virginia Council on Health and Medical Care came in for its share of discussion, and Dr. Thompson moved that The Medical Society of Virginia recommend that the Dean of each of our Virginia medical schools provide one hour each fall for a representative of the Virginia Council to speak to the senior class. The representative would inform senior students of opportunities available in Virginia and the assistance they could obtain through the Council in selecting a location in which to practice. The motion was seconded.

Dr. Nelson expressed the opinion that house staff members are actually the ones who should be contacted, and explained that Mr. Fisher speaks to the students whenever opportunities can be found. Dr. Finch pointed out that Mr. Fisher speaks to those physicians seeking Virginia licenses during regular meetings of the Board of Medical Examiners.

Dr. Thompson's motion was then adopted.

Considered next was a resolution from the Lynchburg Ophthalmology Society which would recommend legislation requiring all dispensers of ophthalmic lenses to sell only hardened glass or plastic

lenses. The resolution recognized the danger of serious injury to wearers of breakable lenses.

The opinion was expressed that the resolution should be referred to the Society's Committee on Conservation of Sight, and a motion to this effect was seconded and adopted.

Dr. Finch acquainted Council with a request received from representatives of the Medical Society of New Jersey for The Medical Society of Virginia to join in a protest against certain actions by the AMA Council on Medical Education considered contradictory to directives by the AMA House of Delegates. It was pointed out that the AMA was on record as being opposed to any system or program by which any part of an intern's or resident's salary is paid from fees collected by the attending physician or from fees collected under any type of medical-surgical insurance.

A questionnaire distributed by the Council on Medical Education was considered by the New Jersey Society as "subtle encouragement to hospitals to consider employment of means of compensating interns and residents and of defraying the costs of training programs that have been formally and specifically disapproved by the AMA House of Delegates."

There followed considerable discussion, and the feeling was expressed that the questionnaire did not seem too unreasonable, and that the Council on Medical Education could in no other way obtain the information it needed. Dr. Nelson reported that the issue did point out a serious problem faced by hospitals in training house staffs. He expressed the opinion that a method must be found now to train house staffs with private patients.

Dr. Finch then introduced the following resolution:

> WHEREAS, by action of its House of Delegates, since 1963 the American Medical Association has been on record as "opposed to any system or program by which any part of an intern's or resident's salary is paid out of fees collected by the attending physician or out of fees collected under any type of medical-surgical insurance coverage"; and
>
> WHEREAS, indications are clear that, in disregard of that policy position, attempts are being made to divert private voluntary insurance and Part B, Medicare insurance funds for the disapproved end; now therefore be it
>
> RESOLVED, that The Medical Society of Virginia emphasizes its approval of and concurrence in the official AMA policy and deplores and condemns any effort to modify or circumvent it; be it further
>
> RESOLVED, that The Medical Society of Virginia strongly commends the successful efforts of The Medical Society of New Jersey in leading the movement to maintain the official policy of AMA in this matter as outlined above; and be it further
>
> RESOLVED, that our official delegates to AMA be instructed to give all aid and support to any delegation, or delegations, in their efforts to maintain the present official AMA policy in regard to the payment of interns and residents.

The motion was seconded and adopted.

Dr. Birdsong presented a report from the Special Committee on Functions and Facilities. The report pointed out that the President's task was becoming more complex with each passing year, and the office was becoming almost a full-time job. It went on to state that, in the interest of continuity, the Executive Secretary should be authorized to assume more duties of an official nature. The thought was expressed that a change in title would be necessary to obtain the desired result, and that whoever might fill the position should hold membership in the Society. It was recognized that amendments to the Constitution and By-Laws would be necessary to accomplish these ends.

The report also expressed the opinion that the administrative head of the Society should, insofar as possible, be freed from the burden of routine office functions. This would necessitate the hiring of an additional employee to assume overall direction of routine business affairs. The administrative head would, of course, continue to exercise overall supervision of such activities.

A series of recommendations from the Committee were then presented. They were:

1. That the title of Executive Secretary-Treasurer be changed to Executive Vice-President and Secretary-Treasurer. The new assistant would be given the title of Assistant Secretary-Treasurer.
2. That the Executive Vice-President be empowered to represent the Society as an official agent and carry out any duties delegated to him by the President of the Society;
3. That the Executive Vice-President be a member of The Medical Society of Virginia;
4. That the Executive Vice-President be directed to hire an Assistant Secretary-Treasurer as soon as practical; and
5. That the Finance Committee be requested to include in the new budget a sum not to exceed $12,000 for the employment of recommended personnel.

A motion by Dr. Birdsong that the Committee's recommendations be approved was seconded and adopted.

Dr. Birdsong went on to point out that the Constitution and By-Laws must be amended before all of the Committee's recommendations could be realized. *It was agreed that the proposed changes be made available to the Judicial Committee.*

Dr. McCausland then called attention to the fact that Dr. Archer had decided not to stand for re-election to the AMA House of Delegates and that Dr. Finch had made a similar decision with reference to Council. *Dr. Wallace was requested to have a suitable resolution on Dr. Archer ready for consideration at the next meeting of Council.*

Council learned that Dr. Andrews and Dr. Puzak had also decided not to stand for re-election to Council. Regret was expressed that Council would be losing the services of these dedicated men.

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD, *Secretary*

APPROVED:
ALEXANDER MCCAUSLAND, M.D., *President*

Minutes of the House of Delegates

FIRST SESSION

The House of Delegates of The Medical Society of Virginia met in the Virginia Room of the Williamsburg Conference Center on Sunday, November 6, 1966, and was called to order at 2:00 P.M. by Dr. Alexander McCausland, President.

Dr. McCausland introduced Dr. W. Callier Salley, Speaker of the House. Dr. Salley called for a report from the Credentials Committee, and was advised by Dr. James P. Charlton, Chairman, that a quorum was present.

The minutes of the October, 1965, sessions of the House were approved as published in the December, 1965, issue of the Virginia Medical Monthly.

Mrs. George W. Kelly, President of the Woman's Auxiliary to The Medical Society of Virginia, was introduced. Mrs. Kelly reported on Auxiliary activities during the year and presented a most impressive list of accomplishments.

The Speaker then introduced Mrs. Ralph Landes, President-Elect of the Auxiliary.

Next to be presented were the following delegates from allied organizations: Dr. Thomas Bowe, Williamsburg, representing the Virginia State Dental Association; Mr. Carl E. Bain, President, Virginia Pharmaceutical Association, Richmond; Mr. Charles F. Elliott, President, Virginia Hospital Association, Lynchburg; Miss Louise Paxson, Chesapeake, Virginia State Nurses Association; Mr. W. Harrison Turner, President, Student American Medical Association—Medical College of Virginia Chapter, Richmond; and Mrs. Lawrence Kanak, President, Virginia Medical Assistants Association, Richmond.

The House then heard Mr. Russell Berkness, President, Virginia Association of Professions, speak on the objectives and accomplishments for that organization. He stated that the country depended, in these crucial days, on members of the various professions to get the necessary jobs accomplished. He stressed the value and importance of membership in the Virginia Association of Professions, and expressed the hope that all members of The Medical Society of Virginia would see fit to join.

Dr. Kinloch Nelson, Dean, School of Medicine, Medical College of Virginia, addressed the House and told of some of the more pressing problems facing medical schools in these changing times. Rising costs and the disappearance of the ward patient were high on the list. Also mentioned were increasing demands for service, shortages of personnel, increasing complexity of communication, increasing institutionalization, etc.

The Speaker then introduced Dr. Alexander McCausland, who delivered his Presidential Address. The address, which was published in the December issue of the Virginia Medical Monthly, called for closer cooperation between all segments of medicine. Dr. McCausland recalled that the architects of Medicare had sought a "foot in the door"—realizing that complete socialization of medicine would then be a distinct possibility. He went on to say that medicine must not let down its defenses, but must shore them up through strength, vigilance and unity.

The House then considered the proposed "Rules of Procedure" and adopted a resolution of approval.

Dr. Salley appointed temporary chairmen from the Congressional Districts to meet with their respective delegations for the purpose of electing members of the Nominating Committee. He informed the chairmen from the 2nd, 4th, 6th, 8th and 10th Districts that their delegates should select nominees for Council. The 7th, 8th and 9th Districts were requested to submit three nominations for appointment to the State Board of Medical Examiners.

Following a brief intermission, during which the various delegations caucused, the Committee on Nominations was reported as follows:

1st District:	Dr. Frank A. Kearney
2nd District:	Dr. Claiborne W. Fitchett
3rd District:	Dr. W. T. Thompson, Jr.
4th District:	Dr. Fletcher J. Wright

5th District:	Dr. Bate C. Toms, Jr.
6th District:	Dr. George S. Hurt
7th District:	Dr. James C. Respess
8th District:	Dr. David W. Scott, Jr.
9th District:	Dr. Carl E. Stark
10th District:	Dr. C. Barrie Cook

Reference Committee members reported to the Speaker by the delegations were as follows:

1st District:	Dr. E. Bruce Mewborne
2nd District:	Dr. Neil Callahan
3rd District:	Dr. Carl W. Meador
4th District:	Dr. George J. Carroll
5th District:	Dr. Leslie A. Faudree
6th District:	Dr. John Wyatt Davis, Jr.
7th District:	Dr. George M. Nipe
8th District:	Dr. James E. Grimes
9th District:	Dr. George B. Kegley
10th District:	Dr. F. Preston Titus

Dr. McCausland then brought to the attention of the House two matters considered earlier in the day by Council. The first was the report of the Special Committee on Functions and Facilities outlining certain recommendations pertaining to the Executive Secretary and his responsibilities. The report was referred to a Reference Committee. The second matter concerned a resolution supporting the AMA position with respect to the payment of interns and residents. This resolution was also referred to a Reference Committee.

Dr. Walter A. Porter, Chairman of the Finance Committee, then reported on the Society's financial condition through October 1, and reviewed the proposed budget for fiscal 1966-67. The budget was received and referred to an appropriate Reference Committee.

The various Committee reports were acknowledged and referred to Reference Committees. Committee Chairmen were invited to present supplemental reports should they desire. Supplemental reports were presented by the Liaison Committee to Nurse Examiners and the Liaison Committee to the State Bar. Dr. John R. Mapp, speaking on behalf of the Liaison Committee to Nurse Examiners, submitted a resolution having to do with the delegation of certain functions to registered professional nurses.

The House then received the following Committee reports not previously published in the Virginia Medical Monthly: House; Publications; Maternal Health; and Heart, Cancer, Stroke.

The Speaker called for new business and announced that all resolutions introduced would be referred to Reference Committees and the assignments listed on a special board to be displayed in the "registration" area of the Conference Center.

A resolution from the Virginia Beach Medical Society was introduced requiring physical examinations for all operators of motor vehicles.

The Prince William County Medical Society sponsored a resolution having to do with the payment of physicians for services rendered hospitalized welfare patients.

Also introduced was a resolution sponsored by the Arlington County Medical Society requesting that the State Welfare Department establish a revolving fund for reimbursement of physicians treating patients covered by Medicare.

Another resolution was introduced calling for legislation which would require the use of anti-roll bars on tractors.

The Danville-Pittsylvania Academy of Medicine sponsored a resolution recommending Traffic Safety Committees for all component societies.

Introduced next was a resolution calling for certain changes in the Joint Medico-Legal Plan for Screening of Medical Malpractice Cases.

A resolution was presented at the request of the Hopewell Medical Society calling attention to certain HEW guidelines relating to inter-room integration of hospitalized patients.

Another resolution had to do with Society endorsement of the proposed two-year, hospital-trained certified nurse program.

The Northern Neck Medical Association sponsored a resolution advocating that physicians retain their freedom to practice medicine without prohibitions or controls of other groups and interests outside the medical profession.

Introduced next was a resolution urging members of the Society not to sign special certification or recertification forms.

There followed a resolution supporting an action by the AMA House of Delegates having to do with hospital-based physicians and separate billing.

Dr. McCausland then requested permission to introduce a resolution and, by common consent, have it acted upon without referral to a Reference Committee. A motion to grant his request was seconded and adopted.

Dr. McCausland introduced the following resolution which was adopted unanimously:

> Be It Resolved that Doctor Sam D. Graham, 2031 North Augusta Street, Staunton, Virginia, be nominated to receive the award of the President's Committee For The Physically Handicapped

and The Governor's Award Committee as the doctor doing the most toward the employment of the physically handicapped in Virginia.

Following an announcement concerning where the various Reference Committees would meet the following afternoon, the Committee on Nominations was requested to meet with the Speaker in order to select a time and meeting place.

It was then announced that the House would hold its Second Session on Tuesday, November 8, at 3:30 P.M.

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD, *Secretary*

APPROVED:
ALEXANDER MCCAUSLAND, M.D., *President*

SECOND SESSION

The second session of the House of Delegates was called to order by Dr. W. Callier Salley, Speaker, at 3:30 P.M. on Tuesday, November 8, 1966, in Rooms D, E and F of the Williamsburg Conference Center. A quorum was reported by the Chairman of the Credentials Committee.

The Speaker announced that a general session would be held immediately following adjournment of the House in order to ratify any amendments to the Constitution and By-Laws.

Dr. Kenneth R. Crispell, Dean, University of Virginia School of Medicine, addressed the House and reported on matters of particular interest to the practicing physician. He stated that residency training was having its problems, and that the future would undoubtedly see some changes in this regard. He urged everyone to obtain a copy of the book entitled "The Graduate Education of Physicians". The book is in reality a report of the Citizens Commission on Graduate Education and was commissioned by the American Medical Association. Dr. Crispell considers it an extremely important document. He went on to say that much thought is being given to how community hospitals can best be included in graduate programs. Dr. Crispell also expressed appreciation of the scholarship funds contributed by The Medical Society of Virginia and stated that the money was being put to very good use.

Dr. Salley, after pointing out that the majority of Reference Committee members were from the House, requested Dr. Edwards to take over the duties of Speaker. Dr. Edwards then requested Dr. Salley to present the report of Reference Committee No. 1.

On the recommendation of the Committee, the following reports were approved: Executive Secretary-Treasurer; Ethics; Public Relations; Membership; Walter Reed; Liaison to U.M.W. Welfare Fund; Rehabilitation; House; and Publications.

It was the recommendation of the Committee that the action by Council having to do with a realignment of duties within the State office be approved. That action suggested a change in title for the Executive Secretary, would create a new administrative position and proposed certain necessary amendments to the Constitution and By-Laws. *The recommendation was adopted.*

While the Reference Committee was basically in agreement with the philosophy of the resolution sponsored by the Northern Neck Medical Society, its opinion was that the purpose would be better served by adoption of the following substitute resolution:

> RESOLVED, That The Medical Society of Virginia, recognizing that the laws now in effect relating to the dispensing of drugs by Doctors of Medicine create certain conditions handicapping the practice of medicine, particularly in certain areas of the State, recommends that the Legislative Committee continue its thorough study of these laws and make recommendations to the Council of The Medical Society of Virginia designed to bring about needed changes in these laws by the General Assembly of 1968.

The substitute resolution was adopted.

In considering a resolution introduced at the request of the Hopewell Medical Society, the House was advised that the Reference Committee believed that better understanding would be achieved by the following substitute:

> RESOLVED, That The Medical Society of Virginia, concerned with the welfare of hospitalized patients within this State and elsewhere, and recognizing that guidelines now in force by direction of the Department of Health, Education & Welfare relating to the inter-room integration of patients are neither practical nor in the best medical interests of some patients, urges that the representatives from Virginia in the Congress of the United States take action to bring about changes in these guidelines to effect better patient care.

The substitute resolution was adopted.

The Committee went on to report that, in its opinion, the interests of medicine would be better served by the adoption of a substitute for the original resolution having to do with hospital-based physicians and AMA Resolution No. 104. *The House accepted the Committee's recommendation and adopted the following substitute resolution:*

RESOLVED, That the Delegates from The Medical

Society of Virginia to the AMA be instructed to support any move in the House of Delegates to bring about reconciliation of the positions of the AMA House of Delegates and the Board of Trustees concerning Resolution Number 104.

A resolution having to do with official AMA policy prohibiting the payment of interns and residents from funds derived from prepaid medical-surgical insurance programs came in for considerable discussion. After hearing the Committee's recommendation that the resolution be amended by rewording paragraphs two and five and deleting paragraph four, *the House adopted the resolution in the following form:*

WHEREAS, by action of its House of Delegates, since 1963 the American Medical Association has been on record as "opposed to any system or program by which any part of an intern's or resident's salary is paid out of fees collected by the attending physician or out of fees collected under any type of medical-surgical insurance coverage"; and

WHEREAS, there are suspicions in certain areas that attempts are being made to divert private voluntary insurance and Part B, Medicare insurance funds for that disapproved end; now therefore be it

RESOLVED That The Medical Society of Virginia emphasize its approval of and concurrence in the official AMA policy and deplores and condemns any effort to modify or circumvent it; and be it further

RESOLVED That our official delegates to AMA be instructed to continue active support of the present policy of the AMA.

It was reported that the Committee recommended adoption of the proposed budget for 1966-67 as presented by the Finance Committee and Council. *A motion for approval of the following budget was seconded and adopted:*

EXPENSES

Salaries	$ 50,000.00
Telephone & Telegrams	1,700.00
Postage	2,000.00
Stationery & Supplies	2,000.00
Office Equipment	1,500.00
Building Maintenance	6,800.00
Convention Expenses	1,000.00
Council & Committee Expense	2,800.00
Delegates to AMA	2,100.00
Executive Assistant Travel	200.00
President's Expense	3,000.00
Travel	1,900.00
Virginia Medical Monthly	30,000.00
Scientific Exhibits	600.00
Legal Expense	4,000.00
Walter Reed Commission	$ 500.00
Woman's Auxiliary	100.00
Membership Dues (Affiliated Organizations)	500.00
Editor—Virginia Medical Monthly	1,000.00
Miscellaneous	500.00
News and Views	500.00
Retirement Fund	5,750.00
Payroll Taxes (includes Social Security)	2,000.00
VaMPAC	12,000.00
Public Relations	3,500.00
Special Appropriations:	
Virginia Council	4,000.00
AMA-ERF	2,000.00
National Society for Medical Research	150.00
Rural Health	500.00
Miscellaneous AMA	500.00
Scholarship—MCV	2,000.00
Scholarship—University of Virginia School of Medicine	2,000.00
2nd Congress on Mental Health	500.00
TOTAL BUDGET	$147,600.00

The report of Reference Committee No. 1 as a whole was then adopted as amended.

Dr. Salley once again assumed the role of Speaker, and requested Dr. Edwards to present the report of Reference Committee No. 2.

The House, on the recommendation of the Reference Committee, approved the following Committee reports: AMA Delegates; Insurance; Venereal Disease Control; Alcoholism; Medicare; National Emergency Medical Service; Advisory to State Department of Welfare; Medical and Allied Organizations; Medical Education; and Heart, Cancer, Stroke.

It was recommended by the Reference Committee that the last sentence of Article VI of the Constitution be amended as set forth in the report of the Judicial Committee. Dr. Fletcher J. Wright, Jr., then moved to amend Article VI by changing the last sentence to read as follows:

The Editor, the Speaker, *or in his absence,* the Vice Speaker of the House of Delegates, and the State Health Commissioner shall be ex-officio members of the Council.

He said that an effort had been made not to enlarge Council any more than necessary, and that it would not seem advisable to add another ex-officio member. By inserting the words "or in his absence" it would appear that all objectives would be realized. Dr. Wright's proposed amendment was then adopted.

The House then adopted Article VI of the Constitution as amended.

A recommendation to amend Section 4, Article VI of the By-Laws by changing the last sentence to read as set forth in the Judicial Committee report

was adopted. The purpose of the amendment was to grant the Vice Speaker the same privilege as the Speaker when it becomes necessary for him to preside over the affairs of the House.

It was the feeling of the Committee that a proposed amendment to Section 1, Article VI of the By-Laws should not be approved, and the House agreed. This amendment would have changed the procedure by which the Nominating Committee is appointed.

Although the Reference Committee has recommended that the last two paragraphs of the Judicial Committee report be tabled until completion of a full study of the Constitution and By-Laws, it was requested that the recommendation be withdrawn. These paragraphs had to do with a Judicial Committee ruling on the caucus of Delegates.

The House accepted Reference Committee recommendations that those portions of the Judicial Committee report commenting on ethics, State Board of Medical Examiners, unprofessional conduct and telephone polls of Council be approved.

As a matter of information, the Reference Committee pointed out that the two recommendations contained in the report of the Committee on Dependents' Medical Care had been considered and acted upon by Council during its meeting on October 2. Council had, at that time, recommended that the usual and customary fee approach be proposed to the Office of Dependents' Medical Care in lieu of a negotiated fee schedule.

The House then adopted, on the recommendation of the Committee, the following resolution sponsored by the Prince William County Medical Society:

> WHEREAS The government at all levels has assumed responsibility for the medical care of more and more citizens; and
>
> WHEREAS This care is provided by private physicians rather than resident staffs in many instances; and
>
> WHEREAS The governmental agencies pay for all other goods and services received by these recipients; therefore, be it further
>
> RESOLVED, That hospitalized welfare or similar recipients receive free physician service only if it is rendered by a member of a resident staff; and be it
>
> RESOLVED, That private physicians be paid their usual fee for services rendered to hospitalized welfare or other recipients; and be it further
>
> RESOLVED, That existing legislation be changed and future legislation be drafted so as to incorporate this policy.

It was the recommendation of the Committee that a resolution requesting the State Welfare Department to establish a revolving fund for the reimbursement of physicians treating Medicare patients be referred back to the Arlington County Medical Society for clarification and additional details. The House concurred.

In considering a resolution on certification and recertification forms for Medicare patients, the Committee recommended deleting the last "RESOLVED" calling for introduction of a similar resolution in the AMA House of Delegates. Following some discussion, *the House rejected the Committee's recommendation and adopted the following resolution in its original form:*

> WHEREAS Section 1801, Title XVIII, of Public Law 89-97 clearly states "nothing in this title shall be construed to authorize any Federal officer or employee to exercise any supervision or control over the practice of medicine or the manner in which medical services are provided, - - - -; or to exercise any supervision or control over the administration or operation of any such institution, agency, or person"; and
>
> WHEREAS Various Virginia hospitals have adopted by administrative action, a specific certification form and are compelling members of their clinical staffs to sign this form for medicare patients upon threat of loss of admitting privileges for all patients; and
>
> WHEREAS, Such requirements of certification and recertification of "Medical Necessity" for hospitalization of medicare patients does deviate from the ordinary procedure followed in providing hospital care for all patients; now therefore be it
>
> RESOLVED, That The Medical Society of Virginia advises its members to continue to support ethical and quality medical care for all patients and to record same, and advises its members to refuse to sign special certification and recertification forms, or execute special statements of "Medical Necessity" for hospitalization of medicare recipients; and be it further
>
> RESOLVED, That The Medical Society of Virginia instruct its delegates to the American Medical Association to present a similar resolution to the House of Delegates of the American Medical Association at its next session and bend every effort to secure its passage therein.

The report of Reference Committee No. 2 as a whole was then adopted as amended.

Dr. Fletcher J. Wright, Jr., Chairman, was then

introduced for the purpose of presenting the report of Reference Committee No. 3.

The following Committee reports were approved on the recommendation of the Committee: Blue Shield Directors; Child Health; Mental Health; Traffic Safety; Liaison to Nurse Examiners; Advisory to Woman's Auxiliary; Medicine and Religion; and Maternal Health.

Dr. Wright reported that a great deal of consideration had been given to that part of the Medical Service Committee report calling for the unification of Blue Shield Plans in Virginia. Since it was the thinking of the Reference Committee that any such unification would properly have to be worked out by the Plans themselves, it was recommended that the resolution in question not be approved. The Committee's recommendation was adopted.

The remainder of the report of the Committee on Medical Service was approved.

With reference to the report of the Cancer Committee, it was recommended that the paragraph having to do with physical examinations not be approved. The House concurred.

The remainder of the report was approved.

In its consideration of the report of the Liaison Committee to the State Bar the Reference Committee requested that recommendation #3 be not approved. This recommendation had to do with the payment of actual expenses of members of the Joint Screening Panel by The Medical Society of Virginia. The House agreed.

It was also recommended that recommendation #4 in the report of the Liaison Committee to the State Bar be amended by deleting the words "and citizens". Again the House concurred.

The remainder of the report was approved as published.

The House, on the recommendation of the Reference Committee, referred the resolution sponsored by the Virginia Beach Medical Society to the Committee on Traffic Safety. This resolution would seek legislation requiring physical examinations for all operators of motor vehicles.

With reference to the supplemental report of the Liaison Committee to the State Bar, the Reference Committee recommended that it be sent back for further study, and that should any additional action be required before the next meeting of the House, it be presented to Council. Following considerable discussion, the Committee's recommendation was adopted.

Next to be considered was a resolution calling for certain changes in the Joint Medico-Legal Plan for Screening Medical Malpractice Cases. There followed considerable debate, during which Dr. Wallace reported on his study of the Panel's operation and the support he found for it at many levels. A motion by Dr. John Wyatt Davis, Jr., to close debate was seconded and adopted.

The House then approved the Reference Committee's recommendation that the resolution be not approved.

In considering the resolution sponsored by the Danville-Pittsylvania Academy of Medicine on Traffic Safety, the Reference Committee recommended that the words of the last paragraph be changed. *The House concurred and the following resolution adopted:*

> Resolved, That The Medical Society of Virginia recommend that each component society form a Traffic Safety Committee, and actively lead and support the Highway Safety Program at the local level.

Dr. Wright reported that the Reference Committee had given the most careful consideration to the resolution designating certain functions to registered professional nurses and recommended its adoption. *The House accepted the Committee's recommendation and the following resolution was adopted:*

> Whereas, The daily increasing technical work load in the delivery of medical care to the patient demands that the physician, with care and caution, shift as many of the routine and technical procedures as possible to competent assistants; therefore be it
>
> Resolved, That The Medical Society of Virginia endorse statements of guidelines for the delegation of certain functions to registered professional nurses with reference to obstetrical anesthesia, blood transfusion, intravenous medication, suturing and removal of same, cardio-pulmonary resuscitation, and rectal and vaginal examinations on obstetrical patients as set forth by the State Board of Nurse Examiners in a communication to the Virginia Nurses' Association dated 6-19-66.

Acting on the recommendation of the Committee, *the following resolution was also adopted:*

> Whereas, More than one thousand persons are killed annually in this country, the majority being by roll-over accidents; and
>
> Whereas, Physicians are responsible for making known and supporting preventative measures for accidental deaths when possible; therefore be it
>
> Resolved (1) That The Medical Society of Virginia endorse the formulation of appropriate State legislation requiring the use of anti-roll bars on tractors; and
>
> (2) That this resolution be presented by our State Delegates at the next annual meeting of the

American Medical Association for consideration of its adoption at a national level.

The Reference Committee reported that after long and careful deliberation, it recommended that the resolution on the so-called "Prangley Plan" be amended to read as follows:

> RESOLVED That The Medical Society of Virginia again endorse the two-year, hospital-trained certified nurse program, and refer it to the Legislative Committee for implementation.

The House adopted the resolution as amended.

The report of Reference Committee No. 3 as a whole was then adopted as amended.

Dr. Edwards was recognized for the purpose of introducing a motion with common consent of the House. No opposition was noted, and *the following resolution was adopted:*

> RESOLVED, That the House of Delegates express to the Committee on Arrangements of the Williamsburg-James City Medical Society and the Program Committee of The Medical Society of Virginia its sincere appreciation for one of the finest of all Annual Meetings; and be it further
>
> RESOLVED, That the Staff of the Williamsburg Lodge and Conference Center be thanked for its part in making the meeting such a pleasant and memorable event.

Dr. James M. Moss took note of the fact that The Medical Society of Virginia would hold its 1967 Annual Meeting at the Marriott-Twin Bridges Motor Hotel and extended an invitation on behalf of the physicians of northern Virginia for the Society to meet there again in 1971.

Dr. George Hurt was then called upon to present the report of the Committee on Nominations. The following nominees were elected:

President-Elect: Dr. Thomas W. Murrell, Jr.
1st Vice-President: Dr. Hugh G. Stokes
2nd Vice-President: Dr. Francis H. McGovern
3rd Vice-President: Dr. James M. Moss
Speaker: Dr. W. Callier Salley
Vice-Speaker: Dr. Thomas S. Edwards
Executive Secretary-Treasurer: Robert I. Howard

The following Councilors were elected:

2nd District: Dr. William S. Hotchkiss
4th District: Dr. William Grossmann
6th District: Dr. Harry B. Stone, Jr.
8th District: Dr. William D. Liddle
10th District: Dr. Carl P. Parker, Jr.

Nominations to be submitted to the Governor for appointment to the State Board of Medical Examiners from the 7th, 8th and 9th Districts were announced as follows:

Seventh Congressional District

Dr. Robert C. Green, Jr.
Dr. Frank W. Gearing, Jr.
Dr. J. Powell Anderson

Eighth Congressional District

Dr. James B. Hutt
Dr. Lloyd T. Griffith
Dr. Alvin E. Conner

Ninth Congressional District

Dr. James M. Peery
Dr. Lester E. Dunman
Dr. Cecil W. Hickam

With Dr. Thomas W. Murrell, Jr., having been named President-Elect, the Third District nominated Dr. William R. Hill to fill his unexpired term on the Council. Dr. Hill's nomination was seconded and he was elected.

The House was advised that the terms of Dr. Vincent W. Archer as Delegate to the American Medical Association, and his Alternate, Dr. Richard Palmer, would expire on December 31.

Dr. W. Callier Salley and Dr. Richard Palmer were nominated, and Dr. Salley elected in a close contest. *Dr. Palmer's motion that a unanimous ballot be cast for Dr. Salley was seconded and carried.*

Dr. Richard Palmer was then elected as Alternate for the two-year term, beginning January 1.

With Dr. Salley's election as Delegate, it became necessary to elect an Alternate to fill his unexpired term. Dr. Alexander McCausland was nominated and elected.

Dr. W. Copley McLean, with the common consent of the House, introduced a resolution thanking Dr. Archer for his many years of dedicated service to the Society and profession. Dr. Archer is held in high esteem by the AMA House of Delegates and has been a most effective representative. *The resolution was seconded and adopted.*

Dr. K. K. Wallace, Sr., was installed as President in a ceremony conducted by Dr. McCausland.

As his first order of business, Dr. Wallace presented Dr. McCausland with an engraved gavel and Certificate of Appreciation.

Dr. McCausland delivered a brief farewell address in which he expressed appreciation for the loyalty, encouragement and support given by all members of the Society.

After thanking the House for its cooperation, Dr. Salley declared the meeting adjourned.

ROBERT I. HOWARD, *Secretary*

APPROVED:
ALEXANDER MCCAUSLAND, M.D., *President*

The following reports, while accepted by the House of Delegates, have not been previously published.

Publication

Although the Virginia Medical Monthly was not able to reach the break-even point in its operation this year, there were nevertheless some encouraging signs. For example, total receipts were up some $6,000—$27,767.44 this year as against $21,498.60 last year.

When the budget of $30,000 was established for the Virginia Medical Monthly last October, it was not possible to predict the increased cost of printing which made its effect known throughout the industry. Consequently, our disbursements of $35,258.65 represented a substantial increase over last year.

Your committee is happy to report that during the past four months advertising has increased from 54 pages plus eight pages of inserts to 68 pages plus 20 pages of inserts. This healthy increase will have to be balanced by the 10% increase in printing costs during the past year plus an anticipated additional 5% increase in 1967.

Our Editorial Board has been strengthened during the past year by the addition of Dr. H. Lamont Pugh of Arlington. Dr. Pugh retired recently as Surgeon General of the Navy. Although a native Virginian and a graduate of the University of Virginia, his varied assignments in the Navy during the past four decades have given him a cosmopolitan approach to medical affairs that will serve as a useful supplement to the more mundane circles within which we, the other members of the Publication Committee, move and have our being. His breadth of interest and facile pen should prove of great worth to the journal.

HARRY J. WARTHEN, M.D., *Editor*

House

The House Committee is happy to report that the Headquarters Building expenses did not exceed the amount currently budgeted for this purpose. This was made possible in part by contributions totalling $2,046.92, made by the Virginia Academy of General Practice and VaMPAC toward the upkeep of our building in which they share space.

We regret that the Headquarters' Building was broken into during the present year but the damage and loss of equipment was covered by insurance. Steps have been taken to make such happenings less likely in the future.

The expenses for the current year were as follows:

Utilities	$1,179.55
Grounds (Maintenance)	835.36
Janitor Salary and Supplies (Includes cost of floor machine)	1,632.51
Building Repairs	158.07
Fuel Oil	580.97
Real Estate Taxes	2,054.28
Painting (Exterior)	305.00
Miscellaneous	142.42
Total Expenses	$6,888.16

H. J. WARTHEN, M.D., *Chairman*

Maternal Health

The Committee on Maternal Health has not had a formal meeting during 1966 to date. It is anticipated that there will be a breakfast meeting on November 7, in Williamsburg at the time of the State Society meeting.

The Chairman has met with the Secretary, Dr. James J. Dunne, on two occasions. On June 10, 1966, we met at the office of the Secretary in the Blanton Building in Richmond and went over the problems concerning the Committee. There was nothing at that time which required the action of a full Committee meeting. It was found that the work of the Committee in reviewing maternal deaths which have occurred in the State of Virginia during 1965-66 is continuing at a satisfactory pace. There are very few of these maternal death records which will have to be reviewed by the entire Committee because of a failure of a majority agreement by the reviewers.

It was further ascertained that no full-time investigator has been obtained by the State Health Department to replace this position which became vacant at the retirement of Dr. Shamburger. Funds are available for this position but personnel has not been available.

Plans were made for a meeting between members of the Maternal Health Committee and members of the Subcommittee on Fetus and Newborn to discuss proposed rules and regulations relating to the recent law on compulsory PKU testing.

It was mentioned by Dr. Dunne that certain proposed changes in the make-up of birth and death certificates would be submitted to the Maternal Health Committee at a later date. A follow-up on this indicates that these proposed changes will not be made available to us until sometime after January 1, 1967.

In early July the Chairman of the Maternal Health Committee and the Secretary, Dr. James J. Dunne, met in the Medical Society Headquarters in Richmond with Dr. Edwin Harper of Lynchburg, Chairman of the Subcommittee on Fetus and Newborn of the Committee on Chlid Health of The Medical Society of Virginia. Dr. William Grossmann of Petersburg was a member of this Subcommittee and expected to attend but could not at the last minute. The technician in charge of the State Laboratory for Clinical Investigations was present to clarify any technical problems. After much discussion it was moved and passed to approve the recommendadation of the State Health Department in regard to PKU investigations.

No further urgent business is at present before the Committee. It is hoped that a fairly full meeting of the Committee can be arranged during the coming State Society meeting in Williamsburg.

A. Tyree Finch, M.D., *Chairman*

Heart Disease, Cancer and Stroke

In March 1966, the President of The Medical Society of Virginia appointed a Committee on Heart Disease, Cancer and Stroke. This new committee was necessary because of the recent passage of an amendment to the Public Health Service Act as Public Law 89-239. This amendment in effect encouraged the establishment of regional cooperative agreements in the fields of heart disease, cancer, stroke and related diseases to be financed by federal grants for purposes of research, training, demonstration and continuing education in the above fields to the end that diagnosis and treatment of patients with these conditions might be improved. In contrast to the original DeBakey Commission recommendations, this law permits definite regions to develop a program to meet the local needs of the area in a purely voluntary manner through a program designed by the regions themselves.

The Governor of Virginia appointed an Advisory Committee for Region Medical Programs. Headed by the Commissioner of Health and broadly including representatives from hospital associations, interested charitable health organizations and the lay public, the executive committee includes Deans of the two medical schools, Dr. William Hagood from The Medical Society of Virginia, and others.

Your committee met with the Executive Committee of the Governors Advisory Committee in April 1966 and has been apprised of its actions since then. In late September, 1966, a formal application for a planning grant was devised by the Governors Advisory Committee and submitted to the National Institutes of Health for approval. When approved, an executive director will be appointed to effect further surveys, planning and pilot studies in various locations throughout the State. The members of the Committee of The Medical Society of Virginia will participate in an active and advisory capacity with the Governors Committee as these later stages of the program are developed. Ultimately the grass roots emphasis will be met by satisfying local needs through various and multiple local projects.

Frank Alton Wade, M.D., *Chairman*
Jason E. McClellan, M.D.
Alvin P. Long, Jr., M.D.
Howard M. McCue, Jr., M.D.
Anthony J. Munoz, M.D.
W. J. Hagood, Jr., M.D.
James C. Respess, M.D.
Robert A. MacIntosh, M.D.
James L. Chitwood, M.D.
O. Anderson Engh, M.D.

Conservation of Hearing

Part I: Summary of the activity of the Virginia Hearing and Speech Foundation, as reported by Mr. Ralph C. Bralley, Ed. D., Director of Services.

"During the 1965-66 academic year the Virginia Hearing and Speech Foundation was unable to fulfill all of the demands for hearing and speech testing because of lack of personnel. However, during that time we did administer 16,548 evaluations. In addition to the testing programs in the schools, the Foundation conducted a number of pre-school clinics in Charlottesville and Albemarle County and gave financial support to 19 indigent children for speech and/or hearing therapy. Also during the summer, the Foundation's Mobile Clinic visited Camp Easter Seal in Craig County, Virginia, and administered a hearing evaluation to all of the children enrolled.

"In September, 1966, we hired two full time employees (one audiologist and one speech pathologist) to administer speech and hearing evaluations to school age groups throughout the State. At present, they are completing the testing of 10,000 children in Wise County and we have requests to test approximately 65,000 children this year. Before January 1, we anticipate these

requests for testing to involve more than 100,000 children.

"As you can see, the demand for our service is increasing annually, and the provisions of these services are limited only by finances. We hope that in the next couple of years we may be able to obtain more financial support from the State which will enable us to increase our full-time personnel to six."

Part II: Pertains to the joint activities of the Committee on the Conservation of Hearing and the Hearing Conservation Committee of the Virginia Ophthalmology and Otolaryngological Society, Charles S. Sale, M.D., Chairman.

Our main discussions centered around the problem of control of the methods of selling hearing aids. It was decided that the Hearing Conservation Committee of the Virginia O & O Society would proceed with plans for orientation of patients. These plans were to consist of pamphlets for the patients and possible newspaper space advertisements as an educational program. In the future it is hoped that the Committee of Conservation of Hearing of The Medical Society of Virginia will propose some form of legislation to license and control hearing aid sales. This will be presented to The Medical Society of Virginia when the over-all study is completed and appropriate controls are recommended.

CARY N. MOON, JR., M.D., *Chairman*

Fifty Year Members—1966

*Lawrence Osmond Crumpler, M.D.
Clayton Willard Eley, M.D.
*Elbyrne Grady Gill, M.D.
William Painter Gilmer, M.D.
James Loving Hamner, M.D.
Edgar Clay Harper, M.D.
Robert Carhart Hood, M.D.
Howard Marcus Horton, M.D.
Harold Roberts Lipscomb, M.D.
Charles Hamilton Lupton, M.D.
John William Martin, M.D.
Harry Gardner Middlekauff, M.D.
William Overton Poindexter, M.D.
Hertha R. T. Riese, M.D.
Alexander Farish Robertson, Jr., M.D.
Philip Stephenson Smith, M.D.

*Deceased

Members Whose Deaths Have Been Reported Since 1965 Annual Meeting

Albert Adgate Bailey, M.D.
James Brooke Pettis, M.D.
Walter Wesley Sawyer, Jr., M.D.
Edward Latane Flanagan, M.D.
Arnold Ferdinand Strauss, M.D.
John Hundley Hoskins, M.D.
William Lee Cosby, M.D.
Grover Cleveland Sumpter, M.D.
Eugene Anthony Bain, M.D.
Jack Stone Shaver, M.D.
Benjamin Clinton Shuler, M.D.
Charles Thomas Carter, M.D.
Francis Randolph Crawford, M.D.
Robert Preston Hawkins, Jr., M.D.
Margaret Nolting, M.D.
Kenneth Rone Baldwin, M.D.
Thomas E. Haggerty, M.D.
Walter Bramblette Martin, M.D.
Seab Arnold Tuck, M.D.
Rack Fay Benthall, M.D.
Joseph LeCenne DeCormis, M.D.
Charles Lyndon Outland, M.D.
Harry Wooding Pritchett, M.D.
David Luther Rawls, M.D.
Montie Lewis Rea, M.D.
Sigmund Henry Smedal, M.D.
Alfred Bryson Greiner, M.D.
Alfred Power Jones, M.D.
John Langdon Moss, M.D.
Euclid Forrest Neal, M.D.
Benjamin Thomas Painter, M.D.
Lawson Otwood Powell, M.D.
Robert Alexander Bell, M.D.
Richard Alfred Bennett, M.D.
Alto Edmund Feller, M.D.
William Franklin Grigg, Jr., M.D.
Gordon Douglas Hall, M.D.
Benjamin Watkins Rawles, Jr., M.D.
Lewis George Richards, M.D.
Harry Benjamin Stone, M.D.
Tom Albert Williams, M.D.
Antonio Austin Burke, M.D.
Eugene Conway Eggleston, M.D.
Franklin Lawrence Overton, Jr., M.D.
Allen Leet Byrd, M.D.
James Garnett Willis, M.D.
Lawrence Osmond Crumpler, M.D.
Elbyrne Grady Gill, M.D.
Garland Melvin Harwood, M.D.
Thomas Kitzmiller McKee, M.D.
Henry Bearden Mulholland, M.D.
Daniel Doak Talley, Jr., M.D.

Auditor's Report

OFFICERS AND COUNCILORS
THE MEDICAL SOCIETY OF VIRGINIA
RICHMOND, VIRGINIA

GENTLEMEN:

We have made an examination of the books and records of THE MEDICAL SOCIETY OF VIRGINIA, *Richmond, Virginia,* for the fiscal year ended September 30, 1966, and have prepared therefrom the Balance Sheet, Exhibit "A", Statement of Surplus, Exhibit "B", and Statement of Income and Expenses, Exhibit "C". With the exceptions noted in the immediately following paragraph, our examination was made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

We did not verify the accounts receivable by direct correspondence with the debtors, nor did we verify the accounts payable. It will be noted from the balance sheet that the amounts of these items are not material in relation to the financial position as a whole.

It is our opinion that the Balance Sheet, Exhibit "A", presents fairly the financial position of the Society at September 30, 1966, in accordance with generally accepted principles of accounting. The Statement of Income and Expenses, Exhibit "C", is prepared on the basis of cash receipts and disbursements.

Yours very truly,

MITCHELL, WIGGINS & COMPANY
By CHARLES W. ANDERSON
Certified Public Accountant

BALANCE SHEET
September 30, 1966

ASSETS

GENERAL FUND		
Cash in banks		$ 141,045.54
Accounts receivable:		
Dues from members—Estimated collectible value—1965 dues—50 @ $40.00	$2,000.00	
Advertising—Virginia Medical Monthly	1,957.03	
		$ 3,957.03
Investments:		
United States Savings Bonds—Present value (Schedule 1)		21,968.00
		$ 166,970.57
PLANT FUND		
Land and buildings—At cost (Schedule 2)		$ 112,073.67
Furniture and equipment: (Schedule 2)		
Estimated value—October 1, 1950	$5,353.11	
Cost of acquisition since October 1, 1950	7,701.30	
		13,054.41
		$ 125,128.08

EXHIBIT "A"

LIABILITIES AND SURPLUS

GENERAL FUND	
Accounts payable:	
Preparation of Medical Journal—September, 1966	$ 2,913.24
Surplus:	
Available for appropriation:	
Balance—September 30, 1966 (Exhibit "B")	164,057.33
	$ 166,970.57
PLANT FUND	
Surplus invested in plant assets (Exhibit "B")	$ 125,128.08
	$ 125,128.08

STATEMENT OF SURPLUS
For the Fiscal Year Ended September 30, 1966

EXHIBIT "B"

GENERAL FUND		
Balance—October 1, 1965		$ 169,786.37
Add:		
Increase in bond interest adjustments	$ 717.50	
Increase in accounts receivable	208.63	
		926.13
Total		$ 170,712.50
Deduct:		
Excess of expenses over income (Exhibit "C")	$6,093.93	
Increase in accounts payable	561.24	
		6,655.17
Balance—September 30, 1966 (Exhibit "A")		$ 164,057.33
PLANT FUND		
Balance—October 1, 1965		$ 125,128.08
Changes		None
Balance—September 30, 1966 (Exhibit "A")		$ 125,128.08

STATEMENT OF INCOME AND EXPENSES

For the Fiscal Year Ended September 30, 1966

Exhibit "C"

		Actual	*Budget*
Income			
Membership dues		$ 113,575.10	
Interest on savings accounts		2,462.49	
American Medical Association		877.80	
Reprints—Civil War Centennial Issue		78.00	
History of Medicine in Virginia		102.52	
Virginia Medical Monthly:			
Advertising	$ 27,381.76		
Subscriptions—Nonmembers	385 68		
		27,767.44	
Total		$ 144,863.35	
Expenses			
Salaries		$ 39,211.59	$ 40,000.00
Telephone and telegraph		1,767.64	1,700.00
Postage		2,041.93	2,500.00
Stationery and supplies		1,725.64	2,000.00
Office equipment—Repairs and replacements		1,863.86	2,000.00
Building maintenance and repairs—Net		4,975.50	6,800.00
Convention expense		(917.06)	1,000.00
Council and committee expense		2,688.57	2,500.00
Executive assistant—Travel		459.87	500.00
Delegates to American Medical Association		1,700.28	2,000.00
President's expense		1,085.24	3,000.00
Travel expense		1,633.03	1,500.00
Preparation and distribution of medical journal		35,258.65	30,000.00
Scientific exhibits		550.00	1,000.00
Legal expense		13,873.47	4,500.00
Walter Reed Commission		151.00	500.00
Women's Auxiliary		44.50	100.00
Membership dues—Affiliated agencies		440.00	550.00
Editor—Virginia Medical Monthly		1,000.00	1,000.00
Special appropriations:			
Virginia Council Health and Medical Care		4,000.00	4,000.00
American Medical Education Foundation		2,000.00	2,000.00
Student loan—American Medical Association		1,000.00	1,000.00
Rural Health		500.00	500.00
Scholarship—Medical College of Virginia		2,000 00	2,000.00
Scholarship—University of Virginia		2,000.00	2,000.00
Other special appropriations		1,751.41	1,425 00
Virginia Medical Political Action Committee		14,000.00	14,000.00
News and Views		222.99	700.00
Employees' retirement fund		3,356.39	5,500.00
Payroll taxes		7,659.52	8,100 00
Miscellaneous		924.10	1,250 00
Public relations		1,989.16	3,000 00
Totals		$ 150,957.28	$ 148,625.00
Excess of Operating Expenses Over Operating Income (Exhibit "B")		$ 6,093.93	

FINANCIAL CONDITION

The financial condition of the Society at September 30, 1966, is shown in the Balance Sheet, Exhibit "A", on the accrual basis of accounting. A comparative summary of the condition at September 30, 1966, and the two preceding years is presented as follows:

	September 30,		
	1966	1965	1964
Assets			
Cash	$ 141,045.54	$ 147,139.47	$ 129,173.67
Accounts receivable	3,957.03	3,748.40	4,575.00
Investments	21,968.00	21,250.50	20,579.00
Land, buildings and equipment	125,128.08	125,128.08	125,128.08
Totals—All Funds	$ 292,098.65	$ 297,266.45	$ 279,455.75
Liabilities, Surplus and Fund Balance			
Liabilities:			
Accounts payable	$ 2,913.24	$ 2,352.00	$ 2,330.52
Surplus:			
General fund	164,057.33	169,786.37	151,997.15
Fund balance:			
Plant fund	125,128.08	125,128.08	125,128.08
Totals—All Funds	$ 292,098.65	$ 297,266.45	$ 279,455.75

Cash—$141,045.54

Recorded cash receipts were accounted for by deposits in the banks and disbursements were supported by properly signed and endorsed cancelled checks. The balances on deposit at September 30, 1966, were verified by direct correspondence with the banks as follows:

First and Merchants National Bank—Checking account	$ 72,112.47
Bank of Virginia—Savings account	10,604.17
Southern Bank and Trust Company—Savings account	1,473.69
Franklin Federal Savings and Loan Association—Savings account	14,967.80
Richmond Federal Savings and Loan Association—Savings account	21,390.08
First Federal Savings and Loan Association—Savings account	10,248.65
Security Federal Savings and Loan Association—Savings account	10,248.67
Total	$ 141,045.54

Investments—$21,968.00

United States Savings Bonds, as shown in Schedule 1, were verified by inspection of the securities held in a safe deposit box at First and Merchants National Bank, Richmond, Virginia. They are shown in the balance sheet at their current redemption value.

Plant Fund Assets—$125,128.08

Details of the plant fund assets are shown in Schedule 2. No indebtedness against these assets was disclosed by the books.

OPERATIONS

The income and expenses for the fiscal year ended September 30, 1966, are shown in Exhibit "C", prepared on the cash receipts and disbursements basis. A summary of income and expenses for the current year are compared with that of the two preceding years as follows:

	Fiscal Year Ended September 30,		
	1966	1965	1964
Income			
Membership dues	$ 113,575.10	$ 110,019.28	$ 105,814.14
Medical monthly publication	27,767.44	21,498.60	23,206.18
Other operating income	3,520.81	3,124.37	2,921.35
Totals	$ 144,863.35	$ 134,642.25	$ 131,941.67
Expenses	150,957.28	116,676.45	108,276.43
Operating income in excess of expenses	($ 6,093.93)	$ 17,965.80	$ 23,665.24

PLANT FUND ASSETS

September 30, 1966

SCHEDULE 2

LAW AND OFFICE BUILDINGS—At cost		
4025 Dover Road, Windsor Farms, Richmond, Va.:		
Land	$22,706.58	
Office buildings	86,161.68	
Furnishings and decorations	2,205.41	
		$ 111,073.67
Walter Reed House, Belroi, Va.		1,000.00
Total Land and Buildings		$ 112,073.67
OFFICE FURNITURE AND EQUIPMENT		
Estimated insurable value at October 1, 1950		$ 5,353.11
Purchased subsequent to October 1, 1950:		
Cost during fiscal year ended September 30, 1951	$ 951.65	
Cost during fiscal year ended September 30, 1959	6,749.65	
		7,701.30
Total Office Furniture and Equipment		$ 13,054.41
Total Plant Fund Assets (Exhibit "A")		$ 125,128.08

IN GENERAL

The bookkeeping records were found to have been kept in a satisfactory manner.

Insurance in force at September 30, 1966, determined from policies on file, is shown below:

FIRE AND EXTENDED COVERAGE		
Building—Windsor Farms, Richmond, Va.—80% Coinsurance		$ 72,000.00
Office furniture and fixtures—80% Co-insurance		15,000.00
Walter Reed House, Belroi, Va.		2,000.00
LIABILITY—OWNER'S, LANDLORD'S AND TENANT'S		
Bodily injury	$100,000.00–	$ 300,000.00
Property damage		25,000.00
Medical	250.00–	10,000.00
AUTO LIABILITY—NONOWNERSHIP		
Bodily injury	$100,000.00–	$ 300,000.00
Property damage		25,000.00
EMPLOYEE HONESTY BONDS		
Executive Secretary-Treasurer		$ 5,000.00
Secretary		5,000.00
ALL RISK—CAMERA FLOATER		$ 200.00

INVESTMENT BONDS

September 30, 1966

SCHEDULE 1

Bonds	*Series*	*No. Bonds*	*Dated*	*Due*	*Value at Maturity*	*Cost*	*Value at 9-30-65*	*Value at 9-30-66*
U. S. Savings	J	13	5-1-55	5-1-67	$ 6,500.00	$ 4,680.00	$ 6,084.00	$ 6,292.00
U. S. Savings	J	11	12-1-55	12-1-67	11,000.00	7,920.00	10,131.00	10,472.00
U. S. Savings	J	1	12-1-55	12-1-67	500.00	360.00	460.50	476.00
U. S. Savings	J	1	1-1-56	1-1-68	1,000.00	720.00	921.00	952.00
U. S. Savings	J	2	2-1-56	2-1-68	2,000.00	1,440.00	1,842.00	1,904.00
U. S. Savings	J	2	7-1-56	7-1-68	2,000.00	1,440.00	1,812.00	1,872.00
Total					$23,000.00	$16,560.00	$21,250.50	$21,968.00

(Exhibit "A")

President's Message . . . .

I AM MOST grateful and humble for having been chosen your presiding officer. I promise to do my best, and hope to be worthy of your trust. Your President-Elect, incidentally, is an excellent choice. Dr. Murrell and I have worked together amicably for a long time, and I assure you that this co-operation will be continued.

During the coming year our most pressing problem will be holding the line against further federalized medicine encroachment. You, in the field, can and should work along with your officers who need your help badly. A personal conference with your area Congressman can be a welcome thing to him, provided it is not limited to caustics and lamentations.

Our Constitution and By-Laws is a hodge-podge bordering onto a shambles. So far as I can determine, there has never been a revision, and this we hope to do during the ensuing year. All too often, we are at the mercy of debatable parliamentary interpretations. It is quite entertaining at times, but these annual hassles regarding representation should be unnecessary.

Recent actions on the part of the General Assembly point up to us deficiencies. Fixing our districts in accord with the present political subdivisions seemingly just doesn't altogether fit our particular requirements or pattern. The section of our Constitution and By-Laws on ethics should be brought in line with the recently enacted State statutes.

Finally, we, as a medical organization, must not, and cannot be involved in politics. This doesn't, however, forbid our individual elation on the recent accomplishments of VaMPAC. Those who have questioned the efficacy of this organization should take cognizance!

K. K. Wallace, Sr., M.D., *President*

Editorial . . . .

Dentists and the Medico-Dental Team

*****"But he who dares refuse
All aid of men, must be a god or fool."
W. W. Story ("A Contemporary Criticism")

ACTIVE DUTY in the Armed Services provides members of the medical profession with a particularly favorable opportunity to become acquainted with members of the dental profession, and to acquire an awareness of the role they play and the manner and measure in which the two professions can mutually augment the mission of each other.

There are no more elite units in any of the branches of our National Defense establishment than the Dental Corps of the Army, Navy and Air Force.

Scholastically, from the standpoint of academic requirements for admission to a dental school in the United States, and the mastery of a curriculum requisite to graduation, as well as in a postgraduate sense, the profession of dentistry has kept abreast of the profession of medicine in a remarkable measure.

In general, devotees to the profession of dentistry are imbued with certain qualities commonly associated with artists. The dentist is quite significantly endowed with pride of workmanship and pride of accomplishment similarly as is an artist who paints a picture. Many physicians are likewise so endowed, of course. Dentists are as unequivocally dedicated to their calling as are physicians to theirs. A high level of ethical consciousness and practice is equally applicable to both professions.

Physicians and dentists who recognize that they have valuable allies in each other will profit immeasurably from such a realization, and so will their patients. And may it be observed in passing that while the patient clientele of either profession includes many members of the other profession, many more physicians are the beneficiaries of dental treatment than vice versa. Let us ever be grateful to and for our dental colleagues.

That infection in the body is detrimental to the health of individuals, regardless of where the infection may be, is a commonly accepted fact. It is when the infection involves the teeth that the situation assumes a dental bearing. Cases of acute nephritis, arthritis or iritis in which the mischiefmaker may be traced to infected tonsils, infected paranasal sinuses and infected teeth are too common and well known to warrant more than casual mention. In such conditions as diabetes and hyperthyroidism the alert physician will take particular cognizance of infections of any sort, including infection of the teeth and gums. A statistically significant percentage of cases of bacterial endocarditis has been attributed to dental infection. A flare-up in an old endocarditis is sometimes precipitated by the transient bacteriemia that follows extraction of infected teeth. In rheumatic heart disease the physician's responsibility does not end with the treatment of the heart condition but must

take into account oral infection. Glomerular nephritis, pyelitis, or pyelonephritis are often secondary to and always aggravated by extraneous sources of infection, the teeth rating high on the list of possible offending foci.

Not only are the services of our dental confreres highly important in the management of a wide list of systematic maladies that may stem from oral infection as a contributing—if not a solely causative—factor, but frequently the dentist, because he is accustomed to viewing the oral tissues, may assist greatly in the arrival at an early diagnosis of diseases which have oral manifestations. Diabetes, leukemia, pellagra, scurvy, Hodgkin's disease, hyperthyroidism, pernicious anemia, Addison's disease, syphilis (primary, secondary or congenital), lichen planus, purpura hemorrhagica, erythema multiforme, poisoning by heavy metals (notably lead), and finally—and few will gainsay the most important of all—oral cancer fall into this category of diseases.

To consider now another facet of this matter, the dentist in the pursuit of his profession will not infrequently need to turn to the physician or to the appurtenances generally regarded as those belonging more strictly in the province of the physician. In addition to the dependence by a fair number of dentists upon an M.D. or a nurse anesthetist when a general anaesthetic is desired, dentists must recognize the need for laboratory assistance, such as blood and urine examinations, basal metabolism or protein bound iodine tests and biopsy as aids in diagnosis. Laboratory examinations of this nature, prompted by an oral clinical picture, may quite likely reveal the existence of systemic diseases or deficiencies that possibly had not been suspected. As examples of conditions in which the dentist would consider clinical laboratory findings and collaboration with a physician to be in order the following are cited: A predisposition to hemorrhage from the gums or oral mucosa in the absence of trauma or when routine procedures do not control postoperative hemorrhage; when there is marked pallor of the oral mucous membrane; when there is definite evidence of atrophy of the papillae of the tongue; the presence of sore spots on the tongue or buccal mucosa which persist in the absence of local irritation; when there is excessive thirst or dryness of the tongue or oral mucosa; (Sjögrens syndrome) when there is an extraordinary odor to the breath—especially a fruity or ammoniacal odor—or when a remarkable discoloration of the tongue, lips or face is evident. The existence of a ranula is sometimes first noted by a dentist.

Because of the complex embryology of the head and neck, developmental anomalies of a nonconsequential character are not uncommon around the head, neck and mouth and may, by those not altogether familiar with this field, be mistaken for neoplasms. Median rhomboid glossitis, Fordyce's disease and various exostoses such as torus palatinus, or torus mandibularis are conditions in point. The dentist who is accustomed to seeing these conditions can frequently prevent or dissipate a cancerophobia in an apprehensive or frightened patient.

In pregnancy, collaboration with dentists is nowadays more or less routine, although the old theory which would have it that for every

child a tooth has been exploded under the focus of brighter light brought to bear by either physicians or dentists or both. There remains, however, one interesting indication for a pregnant woman's seeking dental care and guidance. Reference is made to pregnancy gingivitis and "pregnancy tumors"—a soft tissue gingival nodule—varying in size from that of a grape seed to that of a green pea.

Before the advent of the antibiotics, it was not uncommon for a relatively simple dental infection to progress with such rapidity as quickly to constitute a major medical or surgical problem calling for prompt and vigorous—even, sometimes heroic—treatment. Problems of this character and magnitude used to be encountered in fulminating facial and cervical cellulitis originating from infected teeth. This process occasionally would extend to and invade the fascial planes and spaces of the neck. The pharyngeal and submandibular spaces could become so involved as to interfere with a patent airway, and to provide for relief, indeed probably to avert imminent death, a tracheotomy was sometimes expeditiously done. If these infections eroded into the pretrachea and prevertebral fascial tracts their spread into the mediastinum was not an unlikely possibility. Physicians and surgeons used occasionally to see a cavernous sinus thrombosis originating from an area drained by the angular vein. An infection from an upper anterior tooth can be conveyed to and by this vein. The venous return from the teeth also enters the ptergoid plexus of veins. The ptergoid plexus communicates with the ophthalmic veins which empty into the cavernous sinus. During recent years, incident to the use of antibiotics and of anticoagulants, these complications stemming from dental infections have become far less common in the United States, and while they are cited more for academic than actual reasons, their potentiality does still exist and in some foreign countries whose health, medical and dental standards are inferior to ours, medico-dental problems of this character are not unlikely to be encountered.

Nowhere are the benefits of physician-dentist cooperation better seen than in the management of traumatic fractures of the jaw bones, whether they are or are not (and they frequently are) complicated by other injuries. The ultimately complete restoration of the patient's chewing ability in these cases depends upon expert management. Therefore, it is essential not only that the fractures be initially reduced and that the bone fragments be properly immobilized, but that the dental arches be so restored as to provide normal occlusion for the patient and that the position of the condyles in the temporomandibular joints be taken into account. The same may be said with respect to numerous more basically plastic procedures involving the face. The assistance of a dentist in repair of cleft palates will certainly be found advantageous; particularly if the surgeon is only an occasional operator in this field. After having witnessed the management, by dentists, of a few jaw fractures, it will be a rare orthopedic or plastic surgeon indeed who will gainsay that the treatment of injuries of this nature belongs in the realm of dentistry.

H. Lamont Pugh, M.D.

LIFE Marches On

ON THE COVER of the December 2 issue of *Life* magazine is a rather fetching picture of Melina Mercouri, "The 'Never on Sunday' Girl", tastefully attired in a short shirt and even shorter pair of hip huggers. Just to the left of her bare midriff, in large orange letters, is the ungrammatical query "Is the U. S. Hospital fit to be sick in?"

To find an answer it is necessary to turn to page 102. Here our worst fears are realized. No, the headline tells us, "It's a miracle that we save any of them." The article by *Life* writer Warren R. Young was prepared in collaboration with three staff members of the Georgetown University Medical Center. On page 103 their oversize photos gaze thoughtfully into space as they contemplate the challenges they have faced, and overcome.

The article opens on a hysterical note. A man in Room 714 has just had a cardiac arrest. "Luckily everything meshed. The heart's sudden silence just *happened* to have been noticed quickly enough, and the four-man emergency team and the needed tools just *happened* to be near enough for instant aid." By another happy coincidence a photographer just *happened* to be present in the hospital corridor at that moment and snapped a photo of the posteriors of four nurses rushing through the doorway of Room 714.

"We may have half a dozen of these in a day and sometimes I think it's a miracle that we save *any* of them." Perhaps he is right, but the general public, who read everything they can find pertaining to medicine, may not be as favorably impressed by such statements as the speaker may have anticipated. The question naturally will arise in the minds of many laymen that if this is true in a leading hospital in our nation's capital, just what would the figures be in hospitals across the country and especially in his own home town. Physicians, too, will wonder why six cardiac arrests may occur in one day at the Georgetown Hospital. No possible good can come from such an exaggerated statement in a lay magazine.

We are also told "at least one in every six drug doses is given at the wrong time, in the wrong amount or to the wrong patient." Assuming such a situation exists and a surgical patient survives his preliminary medications and is foolhardy enough to persist in being operated upon, he will now face another hazard—"Germs that ambush one of eight surgical patients to imperil recovery." We trust the incidence of infection at the Georgetown hospital is not this high. In fact it is difficult to believe that any hospital in the United States could maintain its accreditation if its infection rate is twelve and one-half percent.

Many other lesser indictments of present-day hospital and nursing inadequacies are pointed out. There is doubtless an element of truth in many of the statements in this lengthy article, but if the outlook is as dark as pictured by these men, the hospitals of America have made little progress since the days of Florence Nightingale. There is no justifica-

tion for the fanciful statement that "Trying to practice in even the best hospitals is like driving on an expressway in a Model T loaded down with power steering, push button windows, a big high compression engine. It's high time to design an entirely new model." This is all rather confusing, but to one who used to drive a Model T Ford, the comparison appears a little far-fetched. Admittedly many of our hospitals leave much to be desired but if the authors would compare the American hospital with its British or European counterpart the absurdity of the above statement would be apparent.

The solution offered by these critics in the *Life* article is to add a 192 bed concentrated care unit to the existing 400 bed Georgetown Hospital. The new facility will house the fresh post-operatives and the seriously ill. It is estimated that 20 percent of the total patient load will fall into this category while the remaining 80 percent, who require minimal care, will be bedded down in the present 19 year old hospital.

Many innovations are planned. Some appear worthwhile but others seem highly impractical. One is reminded of the cliché—the plan is both good and original, but that which is good is not original and that which is original is not good. For example, the pre-operative patient is admitted and spends the night in a "small subterranean and windowless" room. This should weed out those with claustrophobia. He then will be taken to one of twenty-one operating rooms. We are told this number is needed to permit keeping a patient, who does not do well, on the operating table for as "many hours or days" as his condition may require. A patient who wakes up from the anesthesia and finds himself still on the operating table will soon require psychiatric as well as surgical care.

After our hypothetical patient has been weaned from the operating room he will again find himself in a windowless room where his immediate post-operative care will be controlled largely by an elaborate system of computers. If he responds favorably to these rather impersonal ministrations he may hope to be transferred eventually to a real hospital room with an actual window through which he may gaze and see the outside world. All in all it sounds like a rather harrowing experience and the computers will probably receive little fan mail from grateful patients.

An additional drawback to widespread adoption of these innovations is the matter of cost. Congress has authorized "an unprecedented Public Health Service grant of $7 million" and the Georgetown University will contribute another $8 million. This means the cost per hospital bed will be about $80,000, a little high even by present-day inflated standards. Physicians generally will follow this project with considerable interest. May we not hope that further information which may be released about this pilot study will appear in one of the numerous medical journals which would welcome data concerning this matter and not in *Life, Look* or the *Reader's Digest?*

H.J.W.

Calendar of Events

Electrocardiographic Diagnosis—The Medical College of Virginia—Weekly through January 26, 1967

Weekly course offered by the Continuing Education Department and the Section of Cardiovascular Disease of the Department of Medicine each Thursday from 4:00 to 5:30 p.m. The course is designed for those physicians who have some knowledge and experience with electrocardiography and who desire to increase their skills in depth in techniques and interpretation, including pattern and vector analysis.

Post Graduate Seminar on Acute Renal Failure—Sponsored by the Medical College of Virginia and Petersburg General Hospital—Maud H. Titmus Nurses Educational Building of Petersburg General Hospital—January 16, 1967. (Acceptable for continuation study credit by AAGP.)

First National Congress on Socio-economic Aspects of Health Care—Palmer House—Chicago, Illinois—January 22-23, 1967.

Seminar on Practical Aspect of Neurology and Psychiatry for the General Practitioner—Sponsored by the Department of Neurology and Psychiatry and the Office of Continuing Education of the University of Virginia School of Medicine—The Homestead—Hot Springs—January 26-28, 1967.

Post Graduate Seminar on Ambulatory and Emergency Care in Community Hospitals—Sponsored by the Medical College of Virginia and Petersburg General Hospital—Maude H. Titmus Nurses Educational Building of the Petersburg General Hospital—January 30, 1967. (Acceptable for continuation study credit by AAGP.)

Virginia Academy of General Practice—Annual Meeting—The Homestead—Hot Springs—March 2-5, 1967.

Symposium on Radiology of the Chest—Sponsored by Department of Continuing Education, Medical College of Virginia—Will be held in Williamsburg—March 4-8, 1967.

National Medico-Legal Symposium—Fontainebleau Hotel—Miami Beach, Florida —March 9-11, 1967—Jointly sponsored by American Bar Association and American Medical Association.

National Conference on Rural Health—Queen Charlotte Hotel—Charlotte, North Carolina—March 10-11, 1967.

Stoneburner Lectureship: Clinical Pharmacology and Therapeutics—Dr. Stewart G. Wolf, Oklahoma, Lecturer—Medical College of Virginia—Richmond —March 30-31, 1967.

Annual Clinical Conference—Louise Obici Memorial Hospital, Suffolk—April 5 1967.

Post Graduate Course on Premature Infants—University of Virginia School of Medicine—Charlottesville—April 7-8, 1967.

Guest Faculty includes Dr. C. A. Smith, Boston, and Dr. W. W. Wheeler, University of Kentucky.

Virginia Society of Anesthesiologists—4th Annual Meeting and Scientific Symposium—Sheraton Motor Inn—Richmond—April 14-16, 1967.

New Members.

The following new members were received into The Medical Society of Virginia during the month of November:

Thomas Howard Albertson, M.D., Lynchburg
Russell Ovide Briere, M.D., Richmond
Charles Edward Cummings, M.D., Richmond
Thomas Arthur Estep Datz, M.D., Norton
Billie Wright Elliott, M.D., Richmond
Richard Alfred Falls, M.D., Falls Church
John Wood Goodner, M.D., Richmond
Jack Lloyd Hamman, M.D., Roanoke
Herbert Albert Hibben, M.D., Fredericksburg
Robert Dale Hoag, M.D., Newport News
John Robert Talbert, M.D., Waynesboro
Kenneth R. Vander Vennet, M.D., Newport News
Munsey Stephen Wheby, M.D., Charlottesville
Hong Yooke Woo, M.D., Suffolk

Virginia Dermatological Society.

The annual meeting of this Society was held in Williamsburg, November 6th, under the presidency of Dr. William Kaufman, Roanoke. Guest speaker was Dr. Robert Kierland of the Mayo Clinic. He gave an excellent presentation on Association and Transitions of Systemic Lupus Erythematosus, Scleroderma and Dermatomyositis, which was followed by a question and answer period.

All officers were re-elected for the coming year as follows: president, Dr. Kaufman; vice-president, Dr. B. Voss Neal, Newport News; and secretary-treasurer, Dr. Peyton E. Weary, Charlottesville.

Alleghany-Bath County Medical Society.

Dr. James Harnesberger, Hot Springs, has been installed as president of this Society for 1967. Dr. Edwin Bowles, Covington, is president-elect, and Dr. George N. Chucker, Clifton Forge, secretary-treasurer.

Newport News Medical Society.

Officers of this Society for 1967 are: president, Dr. Monte L. Binder; vice-president, Dr. W. James Baggs, Jr.; and secretary-treasurer, Dr. L. S. Cowling.

Northern Neck Medical Society.

At the meeting of this Society at Tides Inn, Irving, October 27th, Dr. T. Brent Wayman, Weems, was installed as president. Dr. Motley Booker, Lottsburg, was named president-elect; Dr. Robert Beatley, Reedville, vice-president; and Dr. John Tyler, White Stone, secretary-treasurer.

A Citation

On the sincere pride of the Roanoke Academy of Medicine in the accomplishments of Dr. Alexander McCausland.

WHEREAS, The Roanoke Academy of Medicine has been fortunate in having one of its members Dr. Alexander McCausland as President of The Medical Society of Virginia for 1965-66.

WHEREAS, This particular year has been most difficult and trying in the adjustmentments necessary with the onslaught of government control of free medicine particularly with reference to the advent of "Medicare".

RESOLVED That we recognize the courage that has been necessary, the determination that has been shown, and the firmness and clear thinking that is ever his in this most difficult time for free medicine.

RESOLVED That we the Roanoke Academy of Medicine express our heartfelt pride in the extraordinary accomplishments of Dr. McCausland as President of The Medical Society of Virginia.

RESOLVED That this citation be incorporated in the minutes of the Roanoke Academy of Medicine and that it be published in the Virginia Medical Monthly.

Dr. Setzler Receives Award.

Dr. G. B. Setzler, Pennington Gap, is the recipient of the Community Service Award for 1966. This award is sponsored by the A. H. Robins Company, Richmond, and is presented at the annual meeting of The Medical Society of Virginia. A special committee of the Society selects the person to receive the award from a list of outstanding doctors submitted to them. The selection is made on the basis of the over-all community services rendered by those being considered.

The Virginia Flying Physicians Association

Has installed Dr. Aubrey A. Houser, Jr., Richmond, as its President, Dr. William Brown, Gloucester, President-Elect, and Dr. Clyde H. Dougherty, Hopewell, Secretary-Treasurer.

The 1967 Annual Meeting of the Flying Physicians Association (National) will be held in Williamsburg from September 10-15. A local committee on arrangements, headed by Dr. J. A. White, Virginia Beach, is already hard at work. Members of the committee are Dr. Houser and Dr. Paul A. Woods, Waynesboro.

Dr. William P. McGuire,

Winchester, has been named chairman-elect of the Section of Ophthalmology of the Southern Medical Association.

Dr. L. Floyd Hobbs

Has located for practice in South Boston. He was in practice in Alexandria for thirty years but for the past several years has been with the University of Idaho Hospital and the University of Minnesota Hospital.

Dr. Guy R. Harrison,

Richmond, was recently appointed a special consultant on oral surgery by the Virginia Medical Service Association (Blue Shield).

Dr. Robert A. Abernathy,

Richlands, has been named Lieutenant-Governor of Division Eight, Kiwanis Capital District.

Associates Wanted.

General practitioner, Richmond environs. Some surgery optional. Guaranteed salary with percentage leading to partnership or expense sharing arrangement. Also need a second semi-retired physician. Send curriculum vitae to #80, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

General Practitioner or Internist Wanted

To join development of Hospital and Medical Group Practice in Fairfax County. Must be energetic. Salary tops. Reply to John H. Renner, M.D., Herndon Medical Center, 77 Third Street, Herndon, Virginia 22070. Phone (703) 437-1100. (*Adv.*)

Professional Office for Rent.

Central West End of Richmond. 860 square feet. Also x-ray equipment for sale. S. J. Eisenberg, M.D. Phone 288-6340.

Office Space Available

In a professional building in the northern Virginia area of Manassas. Suitable for either a specialty or general practice. Located next to the Prince William County Hospital in an area where there is a practice opportunity for all branches of medicine. For further information call Miss Juanita Sibold at 703-368-8166. (*Adv.*)

Psychiatrist Wanted.

Full or part time, State Penitentiary. Salary $13,128-$15,675. Telephone 644-4111, Extension 5236, Richmond, Virginia. (*Adv.*)

Obituaries . . . .

Dr. William Massie Whitehead,

Juneau, Alaska, formerly of Lynchburg, died November 11th following a heart attack. He was sixty-one years of age and received his medical education from the University of Virginia, graduating in 1931. Dr. Whitehead began his practice in Wrangell, Alaska, and then moved to Juneau. He returned to Lynchburg in 1942 and practiced for several years before returning to Alaska. Dr. Whitehead was head of the Whitehead Clinic. He was a member of The Medical Society of Virginia, having joined in 1943.

His wife, a son and four daughters survive him.

Dr. Leonard Oswell Fears, Jr.,

Winchester, died November 16th, having been a patient in the hospital for several months. He was forty-three years of age and a graduate of the Department of Medicine, University of Virginia, in 1948. Dr. Fears was director of public health for Warren, Frederick, Clarke, Page and Rappahannock Counties and the City of Winchester. He had been a member of The Medical Society of Virginia since 1953.

His wife, a daughter and two sons survive him.

Dr. Gill.

Dr. Elbyrne Grady Gill, age 74, internationally known physician, died on September 30, 1966. A Bedford County native and son of a physician, he founded the Gill Memorial Eye, Ear, Nose and Throat Hospital in Roanoke in 1926. Dr. Gill was not only an outstanding physician in his specialty, but he was equally a civic leader in Roanoke and in the State of Virginia.

Dr. Gill graduated from Vanderbilt University in 1916, and had residency training at the New York Eye and Ear Infirmary. He also studied at the University of Pennsylvania and in London, Paris, Berlin and Vienna. He was a practicing physician in Virginia for 50 years.

He was Past-President of the Roanoke Academy of Medicine, the Southwestern Virginia Medical Society, the Virginia Society of Ophthalmology and Otolaryngology, and the New York Eye and Ear Alumni Association. He organized the Virginia Chapter of the International College of Surgeons and was Regent in Virginia for the International College of Surgeons for ten years.

Dr. Gill established, in 1956, the first Eye Bank in the State of Virginia serving all of Southwest Virginia. He established the E. G. Gill Eye and Ear Foundation for the prevention of blindness and restoration of sight under which the Eye Bank functions.

Dr. Gill organized the E. G. Gill Annual Postgraduate Spring Congress for refresher course in Eye, Ear, Nose and Throat in 1927, the first postgraduate course of its kind in any specialty in the annals of medical history in America. At his instigation, tremendous energy and courage, specialists and scientists throughout the nation and from other countries, came to the State of Virginia and in particular to Roanoke, Virginia, to lecture at the Spring Congress annually.

In 1943-44, Dr. Gill served as President of the Lions International. He was Chairman of the Roanoke Board of Health for 27 years until his death.

In 1943, he was cited as one of ten outstanding Virginians. He received the Omicron Delta Kappa Leadership Fraternity Honorary Medal at Virginia Tech. He has been listed in Who's Who in America for twenty years. He was Emeritus Deacon at Calvary Baptist Church where he taught the Young Men's Bible Class for 25 years.

Dr. Gill was certified by the American Board of Otolaryngology and he was a member of the American Academy of Ophthalmology and Otolaryngology, the American Triological Association, American Medical Association, American College of Surgeons, and International College of Surgeons. His membership and many other offices held in the city, state and national organizations are too numerous to mention further.

Dr. Gill is survived by his wife, three daughters and nine grandchildren.

Therefore, Be It Resolved that the Roanoke Academy of Medicine extend its sympathy to the bereaved wife and family.

Be It Further Resolved that this resolution become a part of the Minutes of the Roanoke Academy of Medicine and a copy be sent to the family and the Virginia Medical Monthly.

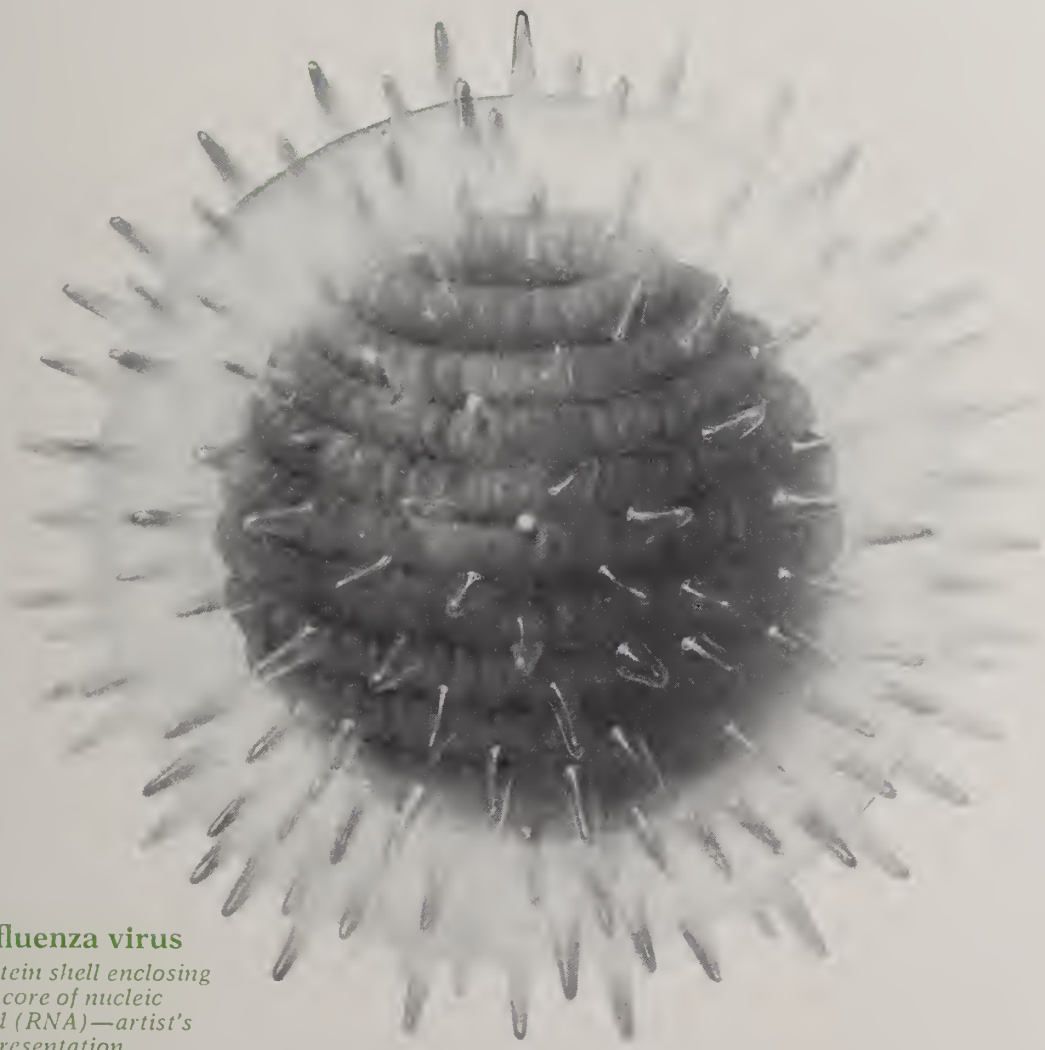
George Hurt, M.D.
Allen Barker, M.D.
Houston Bell, M.D.

New from Du Pont

Symmetrel®

(Amantadine HCl)

The first oral chemical virostat for the prevention of influenza A_2



Influenza virus

Protein shell enclosing the core of nucleic acid (RNA)—artist's representation

The incidence of influenza A_2. In this country, where influenza is one of the leading causes of morbidity, influenza A_2 (Asian) continues to be a serious medical problem. In 1957 influenza A_2 was responsible for approximately 40,000 excess deaths in a three-month period. Since that year the most prevalent influenza virus has been A_2 (Asian).

What is Symmetrel®? "Symmetrel" (amantadine HCl) is a new synthetic chemical which acts as a molecular barrier to virus penetration. It provides for the first time specific oral medication for the prevention of respiratory infections caused by influenza A_2 (Asian) viruses—an entirely new approach in preventive medicine.

For prescribing information, see last page of this presentation

What Symmetrel® (amantadine HCl) means to you

...the first and only oral chemical agent to prevent influenza A_2 (Asian).

...not a vaccine or antibiotic, but a new synthetic chemical unrelated to any other chemotherapeutic agent.

...unique mode of action: prevents virus penetration of the host cell without affecting vital cell functions.

...specifically active against all influenza A_2 viruses tested to date.

...not indicated for the prevention of influenzal or respiratory illness other than influenza A_2 or for the treatment of established disease.

...does not interfere with normal antibody response; acts in concert with pre-existing antibody.

What Symmetrel® means to your patient

...possible immediate influenza A_2 protection when taken following suspected contact.

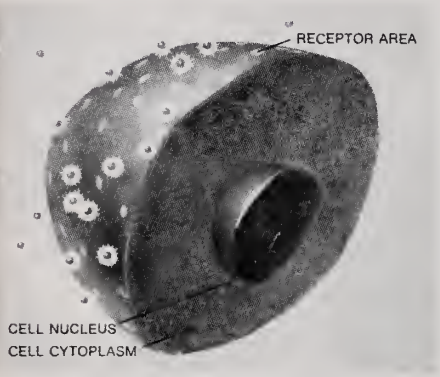
...may be particularly useful during outbreaks or epidemics and for high-risk patients in whom the occurrence of influenza A_2 is especially hazardous.

...a high degree of safety in clinical use.

...simple once daily or b.i.d. dosage.

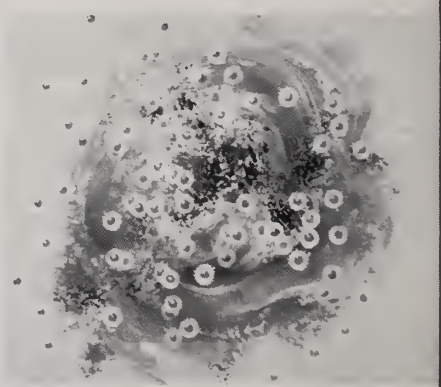
The mode of action of Symmetrel®

How the influenza virus invades and destroys the untreated cell



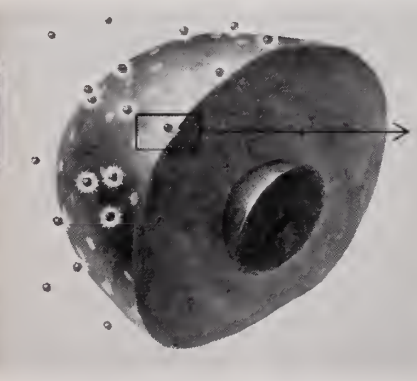
1 Viruses outside the cell attach themselves to specific cell receptor areas

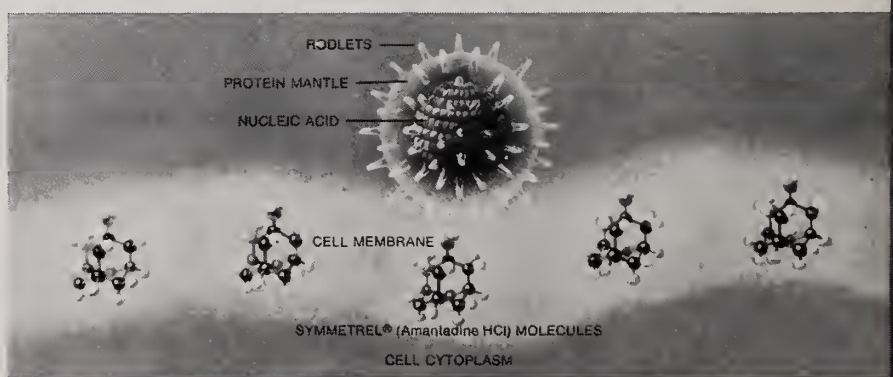
2 The virus is incorporated into a vacuole within the cell. From this vacuole the virus nucleic acid passes into the cell cytoplasm



3 The virus nucleic acid then directs the cell to produce both new virus nucleic acid and virus protein coat material which aggregate to form new virus particles. This process leads to the release of new virus particles and eventual destruction of the cell

How Symmetrel® (Amantadine HCl) prevents virus invasion[1]





Our current knowledge leads us to believe "Symmetrel" acts as a molecular barrier to influenza virus penetration. Shown here in a greatly enlarged section, "Symmetrel"—located at the cellular membrane—effectively prevents (blocks) virus penetration. Thus, "Symmetrel" does not directly destroy the virus particle but acting as a virostat prevents the cycle of virus penetration, virus replication, and cell destruction that is characteristic of virus invasion of animal cells (tissue). *Artist's conception based on current scientific knowledge.*

1. "Mode of Action of the Antiviral Activity of Amantadine in Tissue Culture", Hoffmann, C. E.; Neumayer, E. M.; Haff, R. F.; and Goldsby, R. A., Journal of Bacteriology *90*,623 (1965).

Safety of Symmetrel® Confirmed. When used as indicated, is generally well tolerated. No kidney, liver, bone marrow, or hematological disturbances have been observed.

Prescribing Information

Indications: "Symmetrel" is indicated for the prevention (prophylaxis) of influenza A_2 in persons of all age groups. Early use is recommended, preferably before or as soon as possible after actual or suspected contact with individuals suffering from influenza A_2. "Symmetrel" should especially be considered for high influenza-risk patient groups such as those suffering from chronic debilitating diseases and elderly persons.

Contraindications: Not indicated for the prevention of influenzal or respiratory illness other than influenza A_2 or for the treatment of established disease.

Warnings: Administration to patients with central nervous system disease, particularly geriatric patients with cerebral arteriosclerosis, and patients with a history of epilepsy or other "seizures," requires strict observation for possible untoward effects (see Adverse Reactions). Patients taking psychopharmacologic drugs, central nervous system stimulants, or alcoholic beverages should be observed for possible evidence of intolerance. Those patients who experience central nervous system effects or blurring of vision should be cautioned against driving or working in situations where alertness is important.

No teratogenic effects have been seen in reproductive studies in rats and rabbits. Studies in pregnant women have, however, not been done and use of this drug in women of childbearing age should be undertaken only after weighing the possible risks to the fetus against benefit to the pregnant patient. It should not be administered to nursing mothers since it is not known whether the drug is secreted in the milk.

Precautions: Ineffective against bacterial infections. Patients should be observed for idiosyncratic reactions as with all new drugs. Geriatric patients with pre-existing serious medical illnesses with mental or physical deterioration should be followed carefully medically while taking "Symmetrel." (See Adverse Reactions.)

Adverse Reactions: With higher than indicated doses manifestations of central nervous system effects such as nervousness, insomnia, dizziness, lightheadedness, drunken feeling, slurred speech, ataxia, inability to concentrate and some psychic reactions including depression and feelings of detachment were seen. Occasional blurred vision was reported at higher doses. Some of the milder and less pronounced symptoms above have been reported in a small number of patients taking the recommended dosage of 200 mg per day. Those were mostly transient and disappeared with continued administration of the drug. Some geriatric patients developed paranoid or hallucinatory behavior and became unmanageable while taking 200 mg daily. Medically unselected seriously deteriorated geriatric patients showed poor clinical tolerance after several weeks of daily dosing with 200 mg per day. One elderly patient with a history of prior cerebrovascular accident developed visual hallucinations and grand-mal convulsions while on drug at 800 mg per day. Some cases of dry mouth, gastrointestinal upset and skin rash and rarely, tremors, anorexia, pollakiuria, and nocturia have been also reported.

Safety: When used as indicated, is generally well tolerated. No kidney, liver, bone marrow, or hematological disturbances have been observed.

Dosage: *Adults:* Two 100 mg capsules (or 4 teaspoonfuls of syrup) as a single daily dose or the daily dose may be divided into one capsule of 100 mg (or 2 teaspoonfuls of syrup) twice a day.

Children: 1 yr.—9 yrs. of age: Calculate total daily dose on the basis of 2 mg to 4 mg per pound of body weight per day (but not to exceed 150 mg per day). Daily dose, given as the syrup, should be given in 2 or 3 equal portions.

9 yrs.—12 yrs. of age: Total daily dose 200 mg given as one capsule of 100 mg (or 2 teaspoonfuls of syrup) twice a day.

How Supplied: *Capsules:* Bottles of 100. Each red, gelatin capsule contains 100 mg amantadine HCl.
Syrup: Bottles of 1 pint. Each 5 ml (1 teaspoonful) contains 50 mg amantadine HCl.

DU PONT

Symmetrel®

(Amantadine HCl)

A molecular barrier to virus penetration

arrest diarrhea

in • gastroenteritis • acute infections

LOMOTIL®

Each tablet and each 5 cc. of liquid contains:
diphenoxylate hydrochloride . . . . . 2.5 mg.
(Warning: May be habit forming)
atropine sulfate . . . . . 0.025 mg.

Effectiveness: Lomotil possesses a unique degree of effectiveness in both acute and chronic diarrhea.

Convenience: Lomotil is supplied as small, easily carried, easily swallowed tablets and as a pleasant, fruit-flavored liquid.

Versatility: The therapeutic efficiency, safety and convenience of Lomotil may be used to advantage alone or as adjunctive therapy in diarrhea associated with:

- **Ulcerative colitis**
- **Acute infections**
- **Irritable bowel**
- **Regional enteritis**
- **Drug therapy**
- **Food Poisoning**
- **Functional hypermotility**
- **Malabsorption syndrome**
- **Ileostomy**
- **Gastroenteritis and colitis**

Dosage: For correct therapeutic effect—Rx correct therapeutic dosage. The recommended initial daily dosages, given in divided doses, until diarrhea is controlled, are:

Children: Age	Total Daily Lomotil Dosage	Lomotil Liquid Dosage (Each teaspoonful [4 cc.] contains 2 mg. of diphenoxylate HCl)
3-6 months	3 mg.	½ tsp. 3 times daily
6-12 months	4 mg.	½ tsp. 4 times daily
1-2 years	5 mg.	½ tsp. 5 times daily
2-5 years	6 mg.	1 tsp. 3 times daily
5-8 years	8 mg.	1 tsp. 4 times daily
8-12 years	10 mg.	1 tsp. 5 times daily

Adults: 20 mg. (2 tsp. 5 times daily or 2 tablets 4 times daily) Based on 4 cc. per teaspoonful. Maintenance dosage may be as low as one-fourth the initial daily dose.

Precautions: Lomotil, brand of diphenoxylate hydrochloride with atropine sulfate, is a Federally exempt narcotic preparation of very low addictive potential. Recommended dosages should not be exceeded. Lomotil should be kept out of reach of children since accidental overdosage may cause severe respiratory depression. Lomotil should be used with caution in patients with impaired liver function and in patients taking addicting drugs or barbiturates. The subtherapeutic amount of atropine is added to discourage deliberate overdosage.

Side Effects: Side effects are relatively uncommon but among those reported are gastrointestinal irritation, sedation, dizziness, cutaneous manifestations, restlessness, insomnia, numbness of extremities, headache, blurring of vision, swelling of the gums, euphoria, depression and general malaise.

SEARLE *Research in the Service of Medicine*

why wonder about a drug

when you know

DECLOMYCIN®
DEMETHYLCHLORTETRACYCLINE

is effective b.i.d.

It's made for b.i.d.

Effective in a wide range of everyday infections—respiratory, urinary tract and others—in the young and aged—the acutely or chronically ill—when the offending organisms are tetracycline-sensitive.

Contraindication—History of hypersensitivity to demethylchlortetracycline.

Warning—In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort.

Precautions and Side Effects—Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

Capsules: 150 mg; *Tablets:* film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

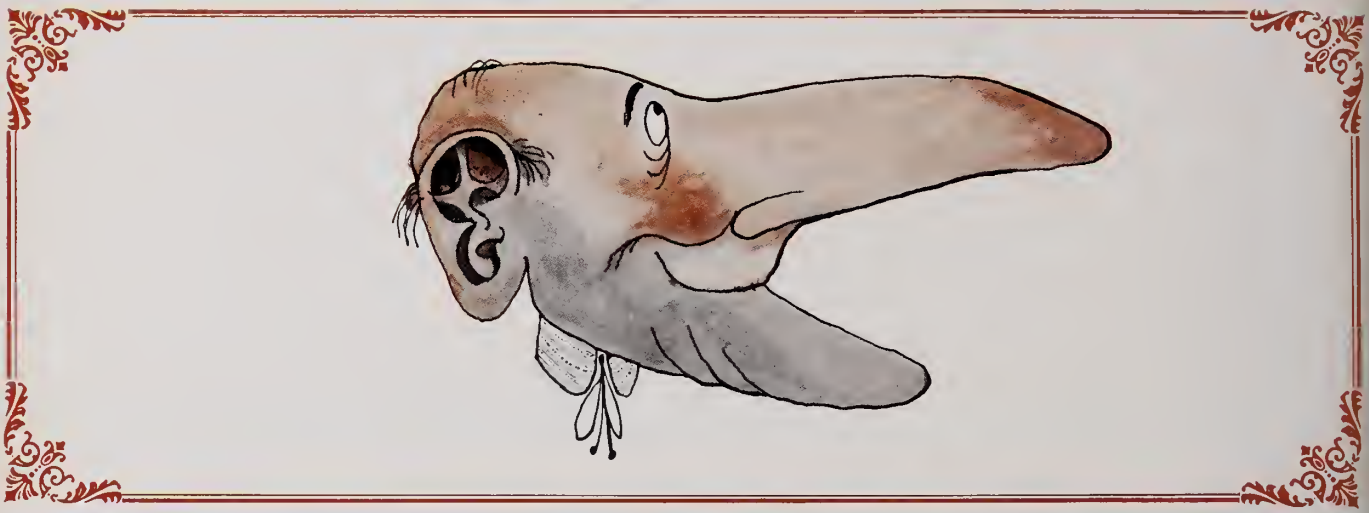
417-6-4076

Lederle

for noses of every description, one safe and sure prescription:

Otrivin®

(xylometazoline CIBA)
on Rx only



■ quickly relieves congested nose
■ action is gentle, yet prolonged
■ side effects are minimal

INDICATION: Nasal congestion. CONTRAINDICATION: Do not use in patients sensitive to small doses of sympathomimetic substances. WARNINGS: Prolonged or excessive use may cause rebound congestion. Use cautiously in patients with hyperthyroidism, coronary artery disease, hypertension, and diabetes. CAUTION: Do not shake Nasal Spray. Rinse Nasal Solution dropper or Nasal Spray tip in hot water after each use. No more than one person should use the same dropper bottle or nasal spray.
SIDE EFFECTS: Occasional local reactions: rebound congestion, slight burning or stinging, sneezing, dry nose. Occasional systemic effects: headache, drowsiness, lightheadedness, insomnia, palpitations. Overdosage in young children may produce profound sedation.
DOSAGE: **Adults:** *Nasal Solution*—2 or 3 drops in each nostril every 4 to 6 hours. *Nasal Spray*—Squeeze rapidly once or twice in each nostril every 4 to 6 hours. **Children under 12:** *Pediatric Nasal Solution*—2 or 3 drops in each nostril every 4 to 6 hours. One drop should be used in infants under 6 months. *Pediatric Nasal Spray*—Squeeze rapidly once in each nostril holding tube upright; repeat every 4 hours as necessary. SUPPLIED: OTRIVIN® hydrochloride (xylometazoline hydrochloride CIBA) *Nasal Solution*, 0.1%; dropper bottles of 1 fluidounce, bottles of 1 pint. *Nasal Spray*, 0.1%; plastic squeeze tubes of 15 ml. *Pediatric Nasal Solution*, 0.05%; dropper bottles of 1 fluidounce. *Pediatric Nasal Spray*, 0.05%; plastic squeeze tubes of 15 ml. *Nasal Solutions* contain either 0.1% or 0.05% xylometazoline hydrochloride, triethanolamine, hydrochloric acid, sodium chloride, and phenylmercuric acetate 1:50,000 as preservative in water. *Nasal Sprays* contain either 0.1% or 0.05% xylometazoline hydrochloride, potassium phosphate monobasic, potassium chloride, sodium phosphate dibasic, sodium chloride, and benzalkonium chloride 1:5000 as preservative in water. *Consult complete literature before prescribing.*
CIBA Pharmaceutical Company, Summit, N. J.

C I B A

2/3329 HKL-1

STUART CIRCLE HOSPITAL

413-21 Stuart Circle RICHMOND, VIRGINIA

Medicine:
Manfred Call, III, M.D.
Alexander G. Brown, III, M.D.
John D. Call, M.D.
Wyndham B. Blanton, Jr., M.D.
Frank M. Blanton, M.D.
William W. Martin, Jr., M.D.

Obstetrics and Gynecology:
Wm. Durwood Suggs, M.D.
Spotswood Robins, M.D.
David C. Forrest, M.D.
Joseph C. Parker, M.D.
William M. Oppenhimer, M.D.

Orthopedics:
Beverley B. Clary, M.D.
James B. Dalton, Jr., M.D.
Franklin P. Watkins, M.D.

Pediatrics:
Edward G. Davis, Jr., M.D.
Thomas P. Overton, M.D.
Edward J. Wiley, M.D.

Ophthalmology, Otolaryngology:
J. Warren Montague, M.D.

Anesthesiology:
William B. Moncure, M.D.
Heth Owen, Jr., M.D.

Surgery:
A. Stephens Graham, M.D.
Charles R. Robins, Jr., M.D.
Carrington Williams, M.D.
Richard A. Michaux, M.D.
Carrington Williams, Jr., M.D.
Armistead M. Williams, M.D.

Urological Surgery:
Frank Pole, M.D.
Harry S. Rowland, Jr., M.D.

Oral Surgery:
Guy R. Harrison, D.D.S.

Physical Therapy
Jacquelyn F. Pearman, R.P.T.

Plastic Surgery:
Hunter S. Jackson, M.D.

Roentgenology and Radiology:
Hunter B. Frischkorn, Jr., M.D.
William C. Barr, M.D.
James W. Proffitt, M.D.

Pathology:
James B. Roberts, M.D.

Director:
Charles C. Hough

TUCKER HOSPITAL Inc.

212 West Franklin Street

Richmond, Virginia

A private hospital for diagnosis and treatment of psychiatric and neurological disorders. Hospital and out-patient services.

James Asa Shield, M.D.
George S. Fultz, Jr., M.D.
Catherine T. Ray, M.D.
Weir M. Tucker, M.D.
Edward W. Gamble, III, M.D.
Gerald W. Atkinson, M.D.

How long will it take him to recover from the flu if he just doesn't care?

Does he really care? Is he alert, encouraged, positive and optimistic about getting out of bed and back to work soon?

Or is he giving in to the depressing impact of confinement?

When functional fatigue complicates convalescence, Alertonic can help...

Pleasant-tasting Alertonic is pipradrol hydrochloride —an effective cerebral stimulant whose gentle analeptic action helps counteract the apathy and inertia that so often delay convalescence—together with an excellent vitamin and mineral formula, in a satisfying 15% alcohol vehicle.

Nothing fosters confidence and a sense of well-being better than your own personal warmth, understanding and encouragement together with Alertonic to help insure prompt response.

Adequate dosage is important: Prescribe Alertonic—one tablespoonful t.i.d., 30 minutes before meals...tastes best chilled.

And for your patient's sake, prescribe Alertonic in the convenient, economical one-pint bottle.

Alertonic®

Available Only On Prescription

Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%; pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B_1) (10 MDR*), 10 mg.; riboflavin (vitamin B_2) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B_6), 1 mg.; niacinamide (5 MDR), 50 mg.; choline,† 100 mg.; inositol,† 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

*Multiple of adult Minimum Daily Requirement supplied.
†The need for these substances in human nutrition has not been established.

Indications: 1. Functional fatigue such as that often associated with: a depressing life experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

Contraindications: As with other drugs with CNS stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive compulsive states.

Side effects: Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

Dosage: Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

Merrell

THE WM. S. MERRELL COMPANY
Division of Richardson-Merrell Inc.
Cincinnati, Ohio 45215

6-7907

SKILLED PROFESSIONAL CARE FOR YOUR PATIENTS

Within 9 minutes from any local hospital—No parking delays

View Showing Park-like Grounds of Terrace Hill Nursing Home

"Understanding Care"

+ CVA's +

TERMINAL CASES

• DIABETICS •

AFTER CARE

CHRONICALLY ILL

Each Patient Under Care of their Own Doctor

- Round the Clock Skilled Care
- Sprinkler System, Fire Protected
- R.N. Supervision
- Activities
- Trained Dietitian
- Male Orderlies

State and City Health Depts. Approved

Accredited by American Hospital Association
Neal L. Maslan, M.P.H. Adm.

- 67 Simmons Hospital Bed Capacity
- Automatic Litter-Size Elevator
- Rates from $282 Monthly. General Care
- Private and Multiple Rooms with Toilets

Your Inspection Invited

Member: + Va. Nursing Home and American Nursing Home Assns.

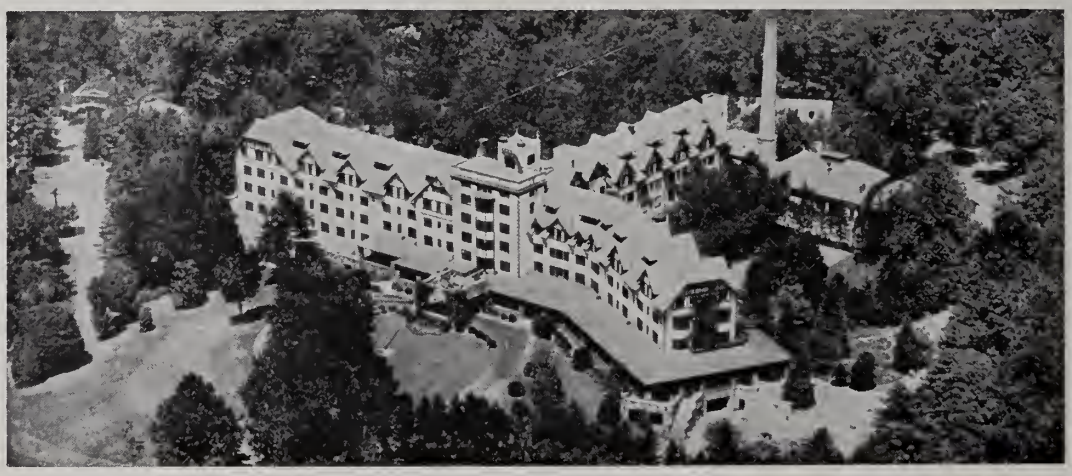
TERRACE HILL NURSING HOME, INC.

2112 MONTEIRO AVENUE RICHMOND, VIRGINIA 23222

• MI. 3-2777 •

Appalachian Hall • Asheville, North Carolina

ESTABLISHED 1916



An Institution for the diagnosis and treatment of Psychiatric and Neurological illnesses, rest, convalescence, drug and alcohol habituation.

Insulin Coma, Electroshock and Psychotherapy are employed. The Institution is equipped with complete laboratory facilities including electroencephalography and X-ray.

Appalachian Hall is located in Asheville, North Carolina, a resort town, which justly claims an all around climate for health and comfort. There are ample facilities for classification of patients, rooms single or en suite.

WM. RAY GRIFFIN, JR., M.D. — MARK A. GRIFFIN, SR., M.D.
ROBERT A. GRIFFIN, JR., M.D. — MARK A. GRIFFIN, JR., M.D.

For rates and further information write APPALACHIAN HALL, ASHEVILLE, N. C.

"Yes, Doctor, the pain is gone."

■ Despite introduction of synthetic substitutes, efficacy of 'Empirin' Compound with Codeine remains unchallenged.

'Empirin'® Compound with Codeine Phosphate gr. ½ No. 3

Each tablet contains: Codeine Phosphate gr. ½ (Warning—May be habit forming), Phenacetin gr. 2½, Aspirin gr. 3½, Caffeine gr. ½.

Keeps the Promise of Pain Relief

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N. Y.

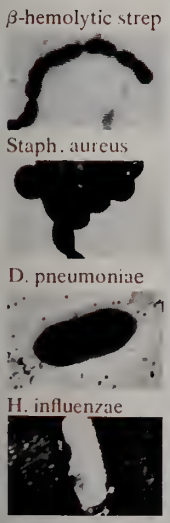
It's easy
for children to get
otitis media...

and Gantanol Suspension is a good way to help them get well

proven effectiveness against major U.R.I. pathogens including beta-hemolytic strep

With Gantanol (sulfamethoxazole), bacteriologic conversion rates for beta-hemolytic streptococci are comparable to those generally seen with penicillin, and apparently superior to those cited in the literature for erythromycin and the broad-spectrum antibiotics.[1,2] With conversion rates ranging from a high of 96% in 229 patients[2] and 98% in 96 cases[3] to 65% in 105 cases,[5,6] Gantanol (sulfamethoxazole) Suspension is an effective alternative therapy in patients sensitive to penicillin, the drug of choice in known beta-hemolytic streptococcal infections.

In addition to this effectiveness against beta-hemolytic streptococci,[1-9] bacteriologic conversion rates have averaged 69% for *D. pneumoniae* (103 of 150 patients),[3,6,7] 78% for *H. influenzae* (42 of 54 patients),[3,4,7] and 67% for *Staph. aureus* (76 of 113 patients).[3,4,6,7] It is this wide spectrum of activity which makes Gantanol (sulfamethoxazole) Suspension a good choice in acute pharyngitis, tonsillitis and otitis media.



therapy generally uncomplicated by side effects

Over 8 out of 10 U.R.I. patients—87% of 2231 patients—showed an excellent to satisfactory clinical response to Gantanol (sulfamethoxazole).[1-13] Such favorable results are even more meaningful in view of the fact that only 1.1% of the more than 2000 cases cited discontinued therapy because of side effects. Of the total side effects reported (4.6%), most were mild and included rash, urticaria, itching, dizziness, headache, diarrhea, nausea and vomiting, shivering sensation, skin discoloration and crystalluria.[1-13]

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Acute and chronic respiratory and urinary tract bacterial infections due to susceptible microorganisms. At present penicillin is considered the drug of choice in acute group A beta-hemolytic streptococcal infections; however, Gantanol (sulfamethoxazole) has shown an effectiveness approaching that of penicillin in a large number of patients. If employed in such infections, *it is important that therapy be continued in the usual recommended dosage for a period of at least 10 days.*

Contraindicated in sulfonamide-sensitive patients, pregnant females at term, premature infants or infants during first 3 months of life.

Warnings: Use only after critical appraisal in patients with liver damage, renal damage, urinary obstruction or blood dyscrasias. If toxic or hypersensitivity reactions or blood dyscrasias occur, discontinue therapy. In intermittent or prolonged therapy, blood counts and liver and kidney function tests should be performed. Data insufficient on prolonged or recurrent therapy in chronic renal diseases of children.

Precautions: Observe usual sulfonamide therapy precautions, including maintenance of an adequate fluid intake. Use with caution in patients with histories of allergies and/or asthma. Patients with impaired renal function should be followed closely since renal impairment may cause excessive drug accumulation. Occasional failures may occur due to resistant microorganisms. Not effective in virus or rickettsial infections.

Adverse Reactions: Following may occur: headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, Stevens-Johnson syndrome, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Dosage: Children—1 teasp./20 lbs initially, followed by ½ teasp./20 lbs b.i.d. *Adults*—4 teasp. initially, followed by 2 teasp. b.i.d. or t.i.d., depending upon severity of infection.

How Supplied: Suspension 10%, 0.5 Gm sulfamethoxazole/5 cc teasp., cherry-flavored, bottles of 16 oz.

References: 1. Braden, B.; Colmore, J. P., and Cummings, M. M.: Antimicrobial Agents Annual—1960, p. 54. 2. Alban, J.: *Am. J. Dis. Child., 109*:304, 1965. 3. Elia, J. C.: *Eye Ear Nose & Throat Month., 41*:722, 1962. 4. Carter, C. H.: *Clin. Med., 71*:1571, 1964. 5. Jackson, H.; Cooper, J.; Mellinger, W. J., and Olsen, A. R.: *Southwestern Med., 44*:246, 1963. 6. Reichelderfer, T. E.: *Clin. Med., 71*:1045, 1964. 7. Peters, J. H.: Scientific Exhibit presented at the Spring Meeting of the American Academy of Pediatrics, April 26-29, 1965. 8. Peters, J. H.: Antimicrobial Agents and Chemotherapy—1961, p. 406. 9. Braden, B., and Colmore, J. P.: *J. Oklahoma M. A., 57*:7, 1964. 10. Chastain, P. J.: *J. Florida M. A., 48*:816, 1962. 11. Grater, W. C.: *Antibiotics & Chemother., 12*:450, 1962. 12. Exline, A. L.: *Colorado GP, 5*:(5), 11, 1963. 13. Patton, J. M.: *West. Med., 5*:46, 1964.

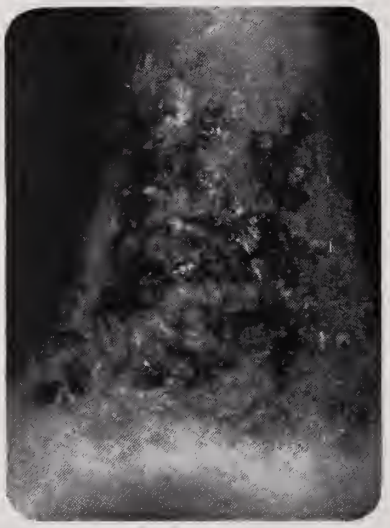
for optimal therapeutic response, remember the initial loading dose each time you prescribe Gantanol (sulfamethoxazole) Suspension

Gantanol®
(sulfamethoxazole)
Suspension

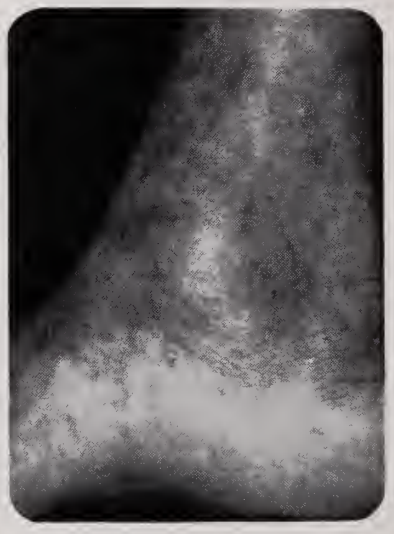
Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

ROCHE

Eczema of many years... controlled in two weeks



Before treatment



After treatment — with ARISTOCORT Topical Ointment 0.1% for two weeks

ARISTOCORT® Triamcinolone Acetonide Topicals have proved exceptionally effective in the control of various forms of eczema: allergic, atopic, nummular, psoriatic, and mycotic.

In most cases responsive to topical ARISTOCORT, the 0.1% concentration is sufficiently potent. The 0.5% concentration provides enhanced topical activity for patients requiring additional potency for proper relief.

Administration and Dosage: Apply sparingly to the affected area 3 or 4 times daily. Some cases of psoriasis may be more effectively treated if the 0.1% Cream or Ointment is applied under an occlusive dressing.

Contraindications: Tuberculosis of the skin, herpes simplex, chicken pox and vaccinia.

Precautions and Side Effects: Do not use in the eyes or in the ear (if drum is perforated). A few individuals react unfavorably under certain conditions. If side effects are encountered, the drug should be discontinued and appropriate measures taken. Use on infected areas should be attended with caution and observation, bearing in mind the potential spreading of infection and the advisability of discontinuing therapy and/or initiating antibacterial measures. Generalized dermatological conditions may require systemic corticosteroid therapy. Steroid therapy, although responsible for remissions of dermatoses, especially of allergic origin cannot be expected to prevent recurrence. The use over extensive body areas, with or without occlusive nonpermeable dressings, may result in systemic absorption. Appropriate precautions should be taken. When occlusive nonpermeable dressings are used, miliaria, folliculitis and pyodermas will sometimes develop. Localized atrophy and striae have been reported with the use of steroids by the occlusive technique. When occlusive nonpermeable dressings are used, the physician should be aware of the hazards of suffocation and flammability. The safety of use on pregnant patients has not been firmly established. Thus, do not use in large amounts or for long periods of time on pregnant patients.

Available in 5 Gm. and 15 Gm. tubes and ½ lb. jars.

PHOTOGRAPHS COURTESY OF M. M. NIERMAN, M.D.

Aristocort® Topical Ointment 0.1% and Cream 0.1%, 0.5%
Triamcinolone Acetonide
Also available in foam form.

Lederle LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

406-6

CLAY'S REST HOME

801 LUNENBURG AVENUE
BLACKSTONE, VIRGINIA

Telephone 292-4497 Area Code 703

A NEW CONCEPT IN RETIRED LIVING FOR OUR SENIOR CITIZENS

Clay's Rest Home has been designed for the retired who wish to be relieved of housekeeping and for those who desire companionship with people their own age.

. . . QUIETLY LOCATED
. . . HOME LIKE ATMOSPHERE
. . . RECREATION FACILITIES
. . . COMFORTABLE SURROUNDINGS
. . . ADJACENT BUSINESS AREA

State approved. Physicians on call 24-hours daily.

ST. ELIZABETH'S HOSPITAL

617 West Grace Street
Richmond, Virginia
Established 1912

Guy W. Horsley, M.D.
General Surgery and Gynecology

James T. Gianoulis, M.D.
General Surgery and Gynecology

James W. Pancoast, M.D.
General Surgery and Gynecology

Leroy Smith, M.D.
Plastic Surgery

Hunter B. Frischkorn, Jr.
Radiology

Austin I. Dodson, Jr., M.D.
Urology

J. Edward Hill, M.D.
Urology

William T. Stuart, M.D.
Urology

Levi W. Hulley, M.D.
General Medicine

Clarry C. Trice, M.D.
General Medicine

Douglas G. Chapman, M.D.
Internal Medicine

George W. Reese, Jr., M.D.
Internal Medicine

Elmer S. Robertson, M.D.
Internal Medicine

Charles A. Pollock, Jr., M.D.
Internal Medicine

William R. Draper, *Administrator*

For the Care of Surgical, Gynecological, Urological and Medical Cases.

fluocinolone acetonide — an original steroid from
SYNTEX
LABORATORIES INC., PALO ALTO, CALIF.

controls infected inflammatory dermatoses that start from scratch

The "itch-scratch" cycle usually associated with inflammation often results in infected dermatoses because broken skin surfaces are particularly vulnerable to pathogenic bacteria.[1] To treat infected inflammatory dermatoses, Neo-Synalar Cream combines the most active topical corticosteroid with a highly reliable antibiotic generally reserved for topical application.

In Neo-Synalar, fluocinoline acetonide controls the inflammation and provides rapid relief from associated pruritus. At the same time, its antibacterial component—neomycin—combats superficial infection caused by many gram-positive and gram-negative bacilli[2] that often colonize and thrive on abraded skin.[1]

A specially formulated vanishing cream base that is greaseless and odor free makes Neo-Synalar cosmetically appealing, and encourages greater patient cooperation.

controls the infection

stops the scratch

Contraindications: Tuberculous, fungal, and most viral lesions of the skin (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of its components. **Precautions:** Neomycin rarely produces allergic reactions. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. Where severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time. **Side Effects:** Side effects are not ordinarily encountered with topical corticosteroids. As with all drugs, however, a few patients may react unfavorably to Neo-Synalar under certain conditions. **Availability:** Neo-Synalar Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes.

References: 1. Pillsbury, D. M., Shelley, W. B., and Kligman, A. M.: A manual of cutaneous medicine, Philadelphia, Saunders, 1961, p. 79. **2.** Barber, M., and Garrod, L. P.: Antibiotic and chemotherapy, Baltimore, Williams and Wilkins, 1963, p. 111.

Neo-Synalar®

(fluocinolone acetonide-neomycin sulfate cream)

Cream

SAINT ALBANS

PSYCHIATRIC HOSPITAL

(A Non-Profit Organization)

Radford, Virginia

Telephone: 639-2482

STAFF

James P. King, M.D., Director

William D. Keck, M.D.
Clinical Director
James K. Morrow, M.D.
Morgan E. Scott. M.D.

Clinical Psychology:
Thomas C. Camp, Ph.D.
Cardestal McGraw, Ph.D.
David L. Strahley, Ph.D.

Edward E. Cale, Jr., M.D.
J. William Giesen, M.D.
Internist (Consultant)

Don Phillips
Administrator
R. Lindsay Shuff, M.H.A.
Assistant Administrator

AFFILIATED CLINICS

Bluefield Mental Health Center
525 Bland St., Bluefield, W. Va.
David M. Wayne, M.D.
Phone: 325-9159

Charleston Mental Health Center
1206 Quarrier St., Charleston, W. Va.
Malcolm G. MacAulay, M.D.
Phone: 344-3578

Beckley Mental Health Center
109 E. Main Street, Beckley, W. Va.
W. E. Wilkinson, M.D.
Phone: 253-8397

Mental Health Clinic
Professional Building, Wise, Va.
Pierce D. Nelson, M.D.
Phone: 328-2211

Riverside Convalescent Home

Sophia & Fauquier Sts.
Fredericksburg, Virginia

Large, air-conditioned, Firesafe building with hospital-like facilities but in a cheerful home-like atmosphere. Twenty-four hour medical supervision and nursing care.

Recreational areas—Occupational and Physiotherapy. Excellent food service. Lovely Riverside Park. Inspection invited. All types of accommodations available.

Rates:
$50.00 to $80.00 per week

JOHNSTON-WILLIS HOSPITAL

RICHMOND, VIRGINIA

A MODERN GENERAL HOSPITAL
PRIVATELY MANAGED
SITUATED IN THE QUIET OF THE
WEST END RESIDENTIAL SECTION

new from Ames
5 basic uro-analytical facts in 30 seconds

LABSTIX

Labstix®

BRAND REAGENT STRIPS

...broadest urine screening possible from a single reagent strip

Urine test results with LABSTIX Reagent Strips can represent significant guides to differential diagnosis or therapy in many conditions. An unexpected "positive" may enable you to detect hidden pathology—long before more recognizable symptoms become evident. Negative results, which permit you to rule out abnormalities in a broad clinical range, can serve as baseline values for reference in future examinations. The 5 colorimetric test areas encompassed on LABSTIX Reagent Strips are:

pH—values are read numerically in the essential range of pH 5 to pH 9.

Protein—results are read either in the "plus" system or in mg. % in amounts approximating "trace," 30, 100, 300, and over 1000 mg. %.

Glucose—provides a "Yes-or-No" answer for urine "sugar spill."

Ketones—detects ketone bodies in urine—**both** acetoacetic acid and acetone. Reacts with as little as 5 to 10 mg. % of acetoacetic acid.

Occult Blood—specific test for intact red cells, hemoglobin or myoglobin. Results are read as negative, small, moderate or large amounts.

Now a Clear Reagent Strip of Firm Construction

...facilitates handling during testing procedure. Excellent color contrast made possible by the clear plastic strip, together with the clearly defined color charts provided, permits precise, reproducible colorimetric readings in all 5 test areas. A more definitive interpretation of uro-analytical facts is made possible.

Available: LABSTIX Reagent Strips, bottles of 100 (color charts are supplied with each bottle).

Ames Company, Inc., Elkhart, Indiana

AMES

08165

when he just can't sleep

Tuinal®

Sodium Amobarbital and
Sodium Secobarbital

Tuinal helps wakeful patients fall asleep fast, stay asleep all night.

Indications: Tuinal, comprised of equal parts of Seconal® Sodium (sodium secobarbital, Lilly) and Amytal® Sodium (sodium amobarbital, Lilly), is indicated for prompt and moderately long-acting hypnosis.

Contraindications: Barbiturates should not be administered to anyone with a history of porphyria, nor should they be given in the presence of uncontrolled pain, because excitement may result.

Warning: May be habit-forming.

Precautions: Tuinal should be used cautiously in patients with decreased liver function, since prolongation of effect may occur.

Adverse Reactions: Idiosyncrasy, such as excitement, hangover, or pain, may appear. Hypersensitivity reactions occur in some patients, especially in those with asthma, urticaria, or angioneurotic edema.

Dosage: 1½ to 3 grains at bedtime.

Supplied: ¾, 1½, and 3-grain Pulvules®.

Additional information available to physicians upon request.
Eli Lilly and Company • Indianapolis, Indiana 46206

Lilly

700196

Mirror, mirror...
is it fact or fancy?

ONE OF A SERIES PUBLISHED REGULARLY IN THE DAILY PAPERS BY PEOPLES DRUG STORES, TO KEEP THE PUBLIC BETTER INFORMED ON MATTERS OF HEALTH.

Is it her imagination . . . or does she *really* see a change in that mole? Facing facts is often difficult, as you well know, Doctor. At Peoples we continually publish reminders that early recognition of possible danger signals can be vital to future good health and peace of mind. You, the medical profession and Peoples share a mutual interest in better health for people everywhere. We will always support your dedicated efforts.

PEOPLES® PRESCRIPTION DRUG STORES

ALL PEOPLES DRUG STORES FILLED OVER 7 MILLION PRESCRIPTIONS IN 1965 • A MEASURE OF THE TRUST PEOPLE HAVE IN PEOPLES

HIGHLAND HOSPITAL

Asheville, North Carolina

Founded 1904

A DIVISION OF THE DEPARTMENT OF PSYCHIATRY OF DUKE UNIVERSITY

Accredited by the Joint Commission on Accreditation and Certified for Medicare

Complete facilities for evaluation of and intensive treatment of psychiatric patients, including individual psychotherapy, group therapy, psychodrama, electro-convulsive therapy, Indoklon convulsive therapy, drugs, social service work with families, family therapy, and an extensive and well organized activities program, including occupational therapy, art therapy, athletic activities and games, recreational activities and outings. The treatment program of each patient is carefully supervised in order that the therapeutic needs of each patient may be realized.

Complete modern facilities with 85 acres of landscaped and wooded grounds in the City of Asheville.

Brochures and information on financial arrangements available

Contact: Mrs. Elizabeth Harkins, ACSW, *Coordinator of Admissions*

or

Charles W. Neville, Jr., M.D.
Assistant Professor of Psychiatry and Medical Director

Area Code 704—253-2761

BAYBERRY PSYCHIATRIC HOSPITAL

HAMPTON, VIRGINIA

A private psychiatric hospital for the treatment of nervous and emotional disorders and the various problems of addiction for both white and colored—employing modern diagnostic and treatment procedures—electro-convulsive and insulin, individual and group psychotherapy, chemotherapy.

Wendell J. Pile, M.D.
Medical Director

Howard L. Cox, M.D. Basil E. Roebuck, M.D.

CLINICAL PSYCHOLOGISTS

William E. Tyson, Chief Psychologist

Charles T. Perkins Milan S. Wilson

BROCHURE OF LITERATURE SENT ON REQUEST
Write or call:

BAYBERRY PSYCHIATRIC HOSPITAL

530 East Queen Street
Hampton, Virginia 23369
Telephone: PARK 2-2504

ST. LUKE'S HOSPITAL McGUIRE CLINIC

1000 West Grace Street
Richmond, Virginia

Internal Medicine
JOHN P. LYNCH, M.D.
WM. H. HARRIS, JR., M.D.
JOHN B. CATLETT, M.D.
ROBERT W. BEDINGER, M.D.
ALICE VIRGINIA THORPE, M.D.
DAVID L. LITCHFIELD, M.D.

General Surgery and Gynecology
WEBSTER P. BARNES, M.D.
JOHN H. REED, JR., M.D.
JOSEPH W. COXE III, M.D.
H. FAIRFAX CONQUEST, M.D.
GILBERT H. BRYSON, M.D.

Neurology
RAYMOND A. ADAMS, M.D.

Orthopedic Surgery
JAMES T. TUCKER, M.D.
BEVERLEY B. CLARY, M.D.
JAMES B. DALTON, JR., M.D.
EARNEST B. CARPENTER, M.D.
FRANKLIN P. WATKINS, M.D.
ERNEST L. CLEMENTS, M.D.

Urology
AUSTIN I. DODSON, JR., M.D.
J. EDWARD HILL, M.D.
WILLIAM T. STUART, JR., M.D.

Bronchoscopy
GEORGE AUSTIN WELCHONS, M.D

Radiology and Isotope Medicine
HENRY S. SPENCER, M.D.
DONALD E. SEIM, M.D.

Pathology
J. H. SCHERER, M.D.

Anesthesiology
HETH OWEN, JR., M.D.
WILLIAM B. MONCURE, M.D.
BEVERLY JONES, M.D.
BOYD H. MAY, M.D.

Administrator
WILLIAM D. GIBSON, M.H.A.
Secretary-Treasurer

ALL ROOMS AIR CONDITIONED
Free Parking for Patrons

Fourth Decade of Nursing

MRS. PLYLER'S NURSING HOME

KATE E. PLYLER (1876-1947) MARY I. CLARK (1884-1955) GENE CLARK REGIRER (1912-1962)

A private nursing home dedicated to the care of chronic, convalescent and aged

MRS. EDNA SHEPHERD TARCEN, Superintendent
1615 Grove Avenue, Richmond, Virginia, Telephone EL 9-3221
Fire Protection by Grinnell Sprinkler System

Richmond Eye Hospital
Richmond Ear, Nose and Throat Hospital

408 North 12th Street
Richmond, Virginia 23219

An Independent Specialized Non-Profit Community Hospital Dedicated to the Treatment and Cure of Eye, Ear, Nose and Throat Diseases and Disorders.

Professional care offered a limited number of indigent patients.

Direct inquiries to John H. Tobin, Jr., Administrator

408 N. 12th Street, Richmond, Virginia

The Gill Memorial Eye, Ear and Throat Hospital

Roanoke, Virginia

ANNOUNCES TO THE PROFESSION
THE
ANNUAL SPRING CONGRESS
IN
OPHTHALMOLOGY AND OTOLARYNGOLOGY
HELD IN MEMORIUM TO DR. ELBYRNE GRADY GILL ON ITS FORTIETH ANNIVERSARY
APRIL 3 THROUGH APRIL 7, 1967

SIDNEY N. BUSIS, M.D.
Pittsburgh, Pennsylvania

WEBB CHAMBERLAIN, M.D.
Cleveland, Ohio

JERRIE CHERRY, M.D.
Baltimore, Maryland

MICHAEL E. DE BAKEY, M.D.
Houston, Texas

RAYMOND L. HILSINGER, M.D.
Cincinnati, Ohio

WENDELL L. HUGHES, M.D.
Hempstead, New York

R. TOWNLEY PATON, M.D.
Southampton, New York

GUS A. PETERS, M.D.
Rochester, Minnesota

FRANK N. RITTER, M.D.
Ann Arbor, Michigan

A. D. RUEDEMANN, M.D.
Detroit, Michigan

JOSEPH A. C. WADSWORTH, M.D.
Durham, North Carolina

PAUL WARD, M.D.
Nashville, Tennessee

ROBERT C. WELSH, M.D.
Miami, Florida

FOR FURTHER INFORMATION WRITE:
SUPERINTENDENT, P.O. BOX 1789, ROANOKE, VIRGINIA

It works.

AN
ETHICAL
AND
EFFECTIVE
COLLECTION
SERVICE

SPECIFICALLY DEVELOPED
FOR THE
MEDICAL PROFESSION

Professional Service Co.

93 MASSACHUSETTS AVENUE
BOSTON 15, MASSACHUSETTS

MEDICINE IN VIRGINIA

18th and 19th Centuries

Reduced Price to Members of
The Medical Society of Virginia

2 Volumes for $4.00

Order Through

THE MEDICAL SOCIETY OF VIRGINIA
4205 Dover Road Richmond 21, Va.

Today's Health

PUBLISHED BY THE American Medical Association

FOR THE AMERICAN FAMILY

A Good Buy in Public Relations

✶ Place it in your reception room

Today's Health is published for the American Family by the American Medical Association, 535 N. Dearborn St.—Chicago 10, Illinois

Give your subscription order to a member of your local Medical Society Woman's Auxiliary, who can give you Special Reduced Rates.

DIARRHEA
MUCOUS COLITIS
DIVERTICULITIS
SPASTIC URETERITIS
BLADDER SPASM

are relieved with.....

Trocinate®

BRAND THIPHENAMIL HCl

Minimum dosage 400 mg., q. 4 h. until relief is constant, adjust maintenance dosage.

A therapeutic blood level cannot be obtained with small dosage. Trocinate is metabolized and eliminated in the urine as harmless degradation products—a safety factor. Sixteen years of clinical usage with the absence of untoward effects establishes the safety of Trocinate. The autonomic nervous system is not involved in its prompt action.

NOW AVAILABLE IN 2 STRENGTHS,
100 mg. and 400 mg.
PINK SUGAR-COATED TABLETS

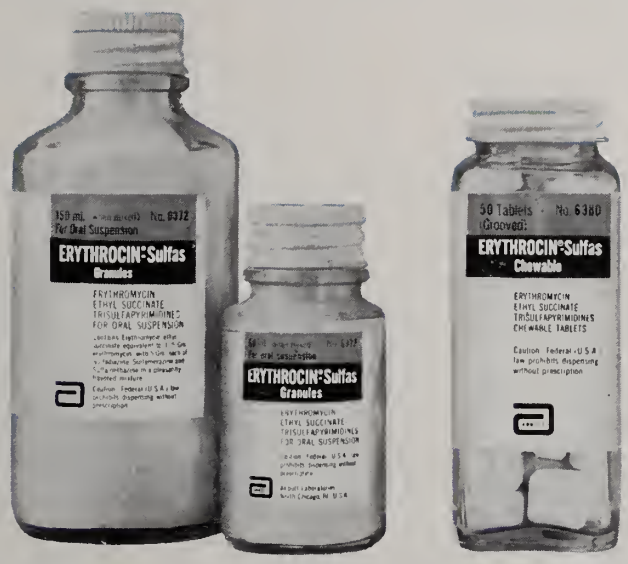
Literature and samples available.

WM. P. POYTHRESS & CO., INC.
RICHMOND, VIRGINIA 23217

Manufacturers of ethical pharmaceuticals since 1856

Perhaps there have been times when you wanted to prescribe erythromycin and triple sulfas for little patients. Now you can—with a choice of two new fine-tasting pediatric forms.

New–Two Pediatric Forms of Erythromycin and Triple Sulfas



ERYTHROCIN®-SULFAS Chewable (Erythromycin ethyl succinate-trisulfapyrimidines chewable tablet)

In clinical trials[1,2], this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

A clinical cure rate of 94.5%

ERYTHROCIN®-SULFAS Granules (Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated[1,2]—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

701358

A clinical cure rate of 97.7%

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.

ABBOTT

Brief Summary on next page

ERYTHROCIN®-SULFAS
Brief Summary

Contraindications: Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

Warnings: As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

Precautions, Side Effects: Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steriods, etc.) should be administered and the drug withdrawn.

Adverse Reactions: Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

Supplied: The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.

ABBOTT

701358

Whenever the diet is faulty, the appetite poor, or the loss of food is excessive

through vomiting or diarrhea—

Valentine's
MEAT EXTRACT

stimulates the appetite,

increases the flow of digestive juices,

provides: supplementary amounts of vitamins, minerals and soluble proteins,

extra-dietary vitamin B_{12},

protective quantities of potassium, in a palatable and readily assimilated form.

Supplied in bottles of 2 or 6 fluidounces.

DOSAGE *is 1 teaspoonful two or three times daily; two or three times this amount for potassium therapy. Dilute with two or more equal volumes of water.*

VALENTINE Company, Inc.
RICHMOND 21, VIRGINIA

This "case history" runs to some 10,000 pages

This is a typical "case history" of one new drug—or, rather, a proposed new drug—assembled for submission to the U.S. Federal Food and Drug Administration. These volumes are the result of several years' work by thousands of professional and skilled personnel in just one pharmaceutical company's research laboratories, and by hundreds of physicians in medical schools, hospitals, and private practice. They cover every aspect of experience with this proposed new agent from chemical laboratory to clinic, from mouse to man. Each volume could conceivably represent hundreds of thousands of dollars of financial investment, countless hours of human effort. This veritable mountain of data stands behind every new agent offered to you by pharmaceutical manufacturers—a reassuring testimonial to the efficacy, safety and purity of the drugs you will prescribe today to lower the cost of disease to your patients.

Pharmaceutical Manufacturers Association
Pharmaceutical Advertising Council

1155 Fifteenth St., N. W., Washington, D.C. 20005

This message is brought to you as a courtesy of this publication on behalf of the producers of prescription drugs.

Where
Doctors
Get Away
From It All
Without Going Far

WHAT other Virginia resort offers so many amenities for so few guests? Never a crowd—only 57 rooms, for country-estate atmosphere. . . Old Mill Room for candlelight dining in actual historic grist mill . . . King James Room for select meetings, private parties . . . Choice rooms have fireplace, private balcony, hand-hewn beams, mountain view, handcrafted furnishings.

New challenging short golf course opening April 1967 . . . All weather tennis courts . . . Lighted putting green . . . Pool . . . Two lakes for fishing . . . Riding, 18-hole golf arranged . . . Footpaths for strolling . . . Sauna . . . Private club (short memberships) on premises.

THE BOAR'S HEAD INN

CHARLOTTESVILLE, VIRGINIA

For reservations, brochure, phone 296-2181

INDEX TO ADVERTISERS

Abbott Laboratories ---- 68-70
Ames ---- 51
Appalachian Hall ---- 42
Bayberry Psychiatric Hospital ---- 55
Boar's Head Inn ---- 72
Burroughs Wellcome & Co. ---- 43
Coca-Cola ---- 74
Ciba ---- 38
Clay's Rest Home ---- 47
Dorsey ---- 27, 58-66, 75-78
DuPont ---- 31-33
Dyer, David A., Insurance ---- 8-9
Eli Lilly and Co. ---- 12-14, 24-26, 30, 52-53
Geigy ---- 16-17, 23
Gill Memorial ---- 57
Glenbrook ---- 10
Highland Hospital ---- 55
Hynson, Westcott & Dunning, Inc. ---- 3
Jefferson, A. G. ---- 74
Johnston-Willis Hospital ---- 50
Jones and Vaughan ---- 7
Lederle Laboratories ---- 22, 36-37, 46, 73
Medicine in Virginia ---- 67, 74
Wm. S. Merrell Company ---- 40-41
Parke, Davis & Company ---- Second Cover
Peoples Service Drug Stores ---- 54
Pharmaceutical Manufacturers ---- 71
Pitman-Moore ---- 18-19
Plyler's Nursing Home, Mrs. ---- 56
Poythress, William P., & Co. ---- 67
Professional Service Co. ---- 67
Richmond Eye Hospital—Richmond Ear, Nose and Throat Hospital ---- 57
Riverside Convalescent Home ---- 50
Robins, A. H. ---- 11
Roche Laboratories ---- 44-45, Back Cover
Saint Albans Psychiatric Hospital ---- 50
Searle, G. D. & Co. ---- 34-35
Smith Kline & French ---- 15
St. Elizabeth's Hospital ---- 47
St. Luke's Hospital ---- 56
Stuart Circle Hospital ---- 39
Syntex Laboratories ---- 28-29, 48-49
Terrace Hill Nursing Home ---- 42
Today's Health ---- 67
Tucker Hospital, Inc. ---- 39
Valentine Company, Inc. ---- 70
Williams Printing Co. ---- 6
Winthrop Laboratories ---- 5
Wyeth Laboratories ---- 20-21, Inside Back Cover

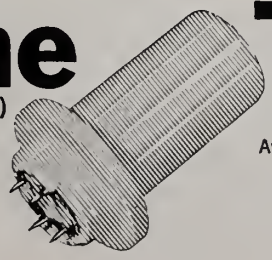
what time is it?

For the past
two years
there's been
one new case
of active tuberculosis
reported for every
four thousand
of U.S. population.

it's time to tine.

Tuberculin, Tine Test

(Rosenthal) Lederle

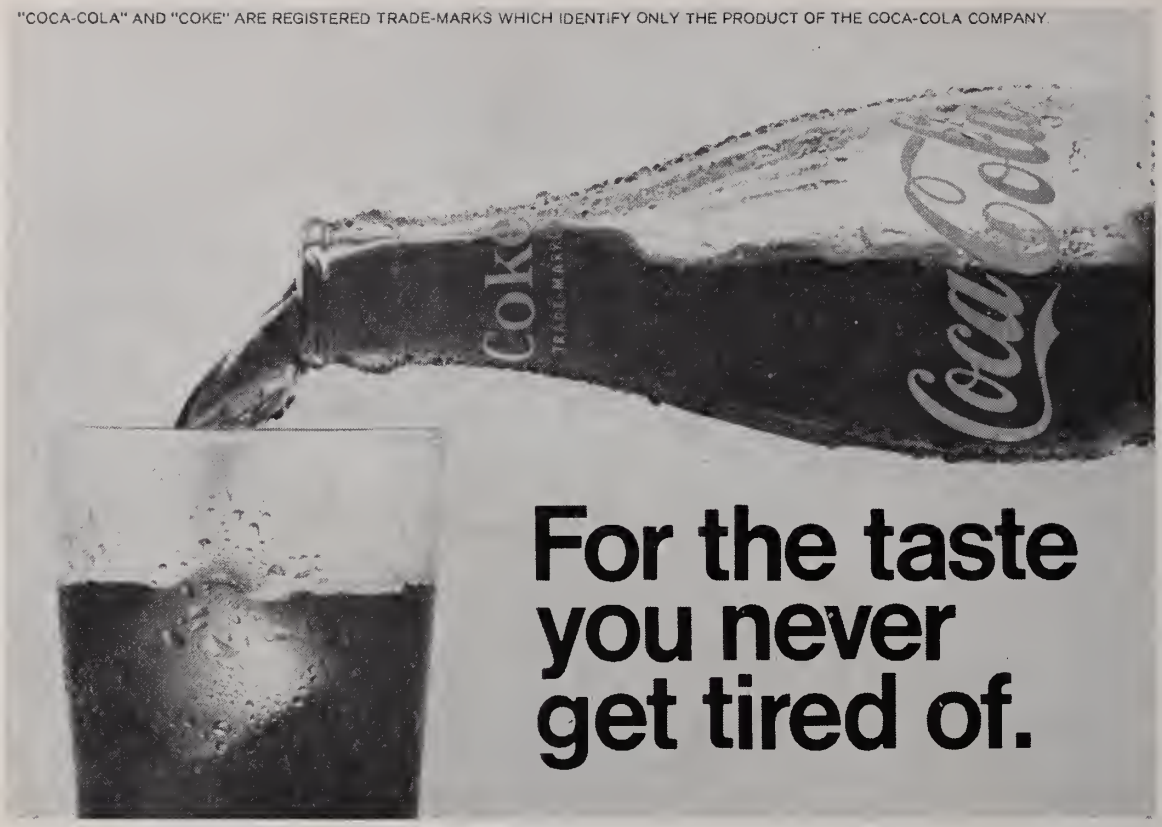


Available in 5's and 25's.
Order now
from your pharmacist
or your Lederle
representative.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

414-6—4046R

"COCA-COLA" AND "COKE" ARE REGISTERED TRADE-MARKS WHICH IDENTIFY ONLY THE PRODUCT OF THE COCA-COLA COMPANY.



For the taste you never get tired of.

For the
Discriminating
Eye Physician

Depend on the Services of a Guild Optician

GUILD OF PRESCRIPTION OPTICIANS OF AMERICA

in
Lynchburg, Virginia

A. G. JEFFERSON

Ground Floor **Allied Arts Bldg.**

Exclusively Optical

Every Virginia Doctor Should Have These Books!

The history of medicine in the Old Commonwealth from Jamestown to the beginning of the present century is a work every doctor should be proud to own. Complete and intensely interesting.

Medicine In Virginia

By Wyndham B. Blanton, M.D.
Published under the Auspices of
The Medical Society of Virginia

Reduced price to members of The Medical Society of Virginia
18th Century—$2.00
19th Century—$2.00

Order through
The Medical Society of Virginia
4205 Dover Road
Richmond 21, Virginia

winter 1966

DORSEY Season

A journal within a journal published quarterly in the interests of better medicine by Dorsey Laboratories, a division of The Wander Company, Lincoln, Nebraska. Address communications to Raymond C. Pogge, M.D., Director of Medicine.

this issue: the nose as a shock organ

the nose as a shock organ

by Charles J. Shagoury, M.D., Chelmsford, Massachusetts

"Is it a cold, hay fever, or has he been reprimanded by his boss?" Occasionally, you will ask yourself this question when confronted by a patient with abrupt onset of rhinorrhea, nasal obstruction, and sneezing. Usually the history will elucidate the problem, but examination of the nose will often provide valuable clues to the correct diagnosis.

The nose is a shock organ in a double sense. First, it is in the nose that the confrontation takes place with the surrounding atmosphere. For twenty-four hours a day, the nose must meet the varying challenges of the inspired air, containing perhaps noxious chemicals, dust, dirt, bacteria, viruses, fungi, and industrial pollutants of all kinds, and render it clean, virtually sterile, and fit for the sensitive alveoli of the lungs. Whatever the temperature or humidity of the atmosphere, the nose must transmit it to the lungs at approximately 98°F, and with a humidity of approximately 40%.[1]

Second, in particularly susceptible patients, the nose acts as a shock organ in a manner totally unrelated to its normal function. Persons with hay fever respond to ordinarily harmless materials by extreme nasal congestion, with marked rhinorrhea and violent spasms of sneezing. In some patients, exposure to threatening or disagreeable agents, or situations involving mental conflict may result in a reaction which is exclusively nasal, with swelling of the turbinates, and marked hypersecretion.[2]

Nasal symptoms usually result when the nose seeks to perform its function of getting rid of noxious and dangerous elements in the atmosphere, and prevent their admission to the trachea and lungs. Small particles are removed by the mucous coating which blankets the nasal passages. This mucous blanket contains a bacteriostatic agent, lysozyme, which destroys most air-borne bacteria.[3] The mucinous content renders the surface sticky, causing dusts and small particles to adhere. It has been postulated that this process is rendered more effective through adsorption because of a surface electrical charge on the nasal mucosa.[4] The cilia then sweep the particulate matter to the pharynx. The nose can prevent entrance into the lungs of particles as small as three microns in diameter, but smaller particles elude the nasal barrier. Most bacteria causing respiratory infections are one to three microns in diameter, but since they usually are inhaled in clumps, they are efficiently removed as a rule. Viruses, which are of the order of 1/1000 of this size, are less efficiently dealt with, unless they occur in very large aggregates.[5]

The nose will react in a more or less similar manner, whatever the nature of the offending agent, whether it be an irritant chemical, virus, pollen, or distasteful emotional situation. In acute coryza, the most characteristic sign is a profuse watery discharge. The volume of secretion may rise from practically nothing to nearly 60cc in twenty-four hours.[6] The mucous membrane is reddened and engorged, while the turbinates are markedly swollen. After the first day or two, the secretion becomes thicker, yellowish, and more difficult to expel. The surface cells are largely destroyed, contributing to the copious discharge, which now also contains numerous inflammatory cells which have migrated to the area. Gradually, over a period of a few days, or a week, the flood abates, the swelling and redness subside, and the nasal epithelium resumes a healthy appearance.

Repeated attacks of rhinitis, particularly if there is an underlying element of obstruction, may result in chronic rhinitis. The mucous membrane is constantly swollen and reddened. Sticky, mucopurulent secretions are a continuous feature, and the glandular elements are hypertrophied. Commonly, the mucosal surface takes on an irregular, rounded "mulberry" appearance, and nasal passages are occluded by the swollen turbinates and redundant mucosa.

While all of us are susceptible to colds, the victim of hay fever, or allergic rhinitis, displays a marked nasal reaction to materials in the air which leave his associates unaffected. In such a patient, the nasal mucosa has become an allergic "shock" organ. Contact with the nasal allergen causes local release of histamine, with vasodilatation, increased vascular permeability, and severe nasal congestion, similar to the "wheal" and "flare" reactions in the skin, when the epidermis is the allergic shock organ. While we eagerly await the coming of spring, the hay fever sufferer dreads the blooming season, whose invisible pollens are poisons to his sensitive nose. His neighbor's cat or dog may provoke paroxysms of uncontrollable sneezing. In some cases a specific allergen is not identified, but the triad of rhinorrhea, nasal obstruction, and sneezing is present.[7] The nose in these cases shows a pale, boggy, edematous mucosa, with a thin mucoid secretion. The mucous membrane shows extreme retractility to 1% cocaine or ephedrine. If the patient has medicated himself prior to examination, the nasal passages may appear abnormally patent, or show exaggerated congestion due to rebound reaction. The secretion may show a large number of eosinophils particularly after an attack of sneezing or rhinorrhea. Touching the mucosal surface, especially of the inferior turbinate, leaves an indentation, showing that the swelling is due to stasis and edema, rather than actual hyperplasia of the mucous membrane as in chronic hypertrophic rhinitis. Though the pale swollen mucosa is the hallmark of allergic rhinitis, as usually seen by the physician, exposure of allergic subjects to their known allergens results in a brief hyperemic phase, followed by pallor and edema.[8]

In the later stages of allergic rhinitis, the chronic edema of the mucous membrane results in the formation of polyps, clusters of grape-like masses hanging from the roof of the nose, with a pale glistening surface, contributing significantly to the sense of nasal obstruction and oppression.

A large group of patients show symptoms of nasal congestion when confronted by adverse life situations.[9] In these unfortunate persons, anxiety, frustration, and resentment are often accompanied by a runny nose and nasal obstruction. Lacrimation adds to the nasal stuffiness. This autonomic response, mediated by the parasympathetic nervous system, may be part of a general parasympathetic reaction, or may possibly represent in part, a symbolic effort to wash out and crowd out the offending situation.

Nasal congestion may also occur in some patients at times of sexual stimulation, and in women during menstruation and pregnancy, even to the point of epistaxis.[10] The relationship is obscure; castration results in atrophy of the nasal glands, and their action is inhibited by the hormones of the hypophysis and the thyroid.[11] The nose may be the shock organ in drug therapy. The nose may also bear the brunt of industrial stress, in those who work in a hot dry atmosphere, or those exposed to acid fumes, or irritating dusts. As the air in our cities is increasingly polluted by exhaust fumes, and industrial irritants, whole urban populations may suffer from chronic nasal and respiratory symptoms.

Of course, nasal reactions are not just infectious, or allergic, or emotional. Particularly in the chronic sufferers, there is an interdependence of all three. Death of a relative, or other psychic shock can pre-

(concluded on following page)

it's a comforting thing to know

For postnasal drip, clogged ears and stuffed and runny noses

Triaminic® timed-release tablets

Each timed-release tablet contains:

Phenylpropanolamine hydrochloride	50 mg.
Pheniramine maleate	25 mg.
Pyrilamine maleate	25 mg.

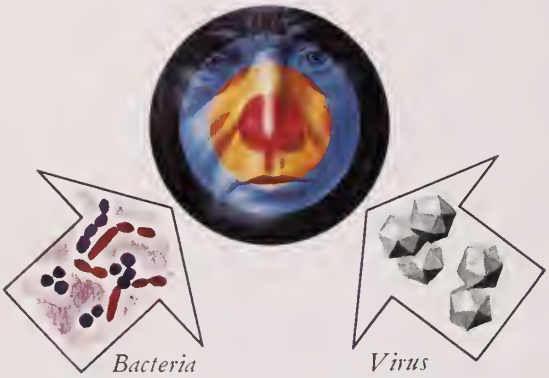
keep patients comfortable 'round the clock. 24-hour decongestion on just a single tablet dosed morning, mid-afternoon and at bedtime. Patients regain senses and can breathe, smell and taste again.

Triaminic. Isn't that a comforting thing to know?

Side effects: Occasional drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets. Precautions: The patient should be advised not to drive a car or operate dangerous machinery if drowsiness occurs. Use with caution in patients with hypertension, heart disease, diabetes or thyrotoxicosis.

(Advertisement)

cipitate an attack of rhinorrhea in hay fever sufferers.[12] Others develop attacks of vasomotor rhinitis following change in temperature, chilling, or exposure to the sun, or simply warm bedclothes.

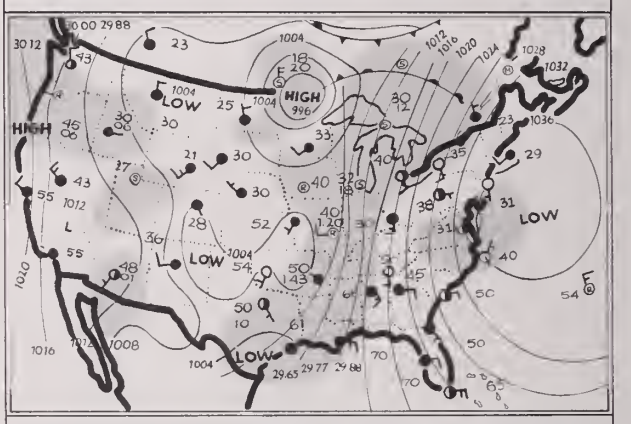


The complex interplay of allergy and infection is largely unclear. Allergy to the viruses and bacteria which cause infection has been postulated, but is difficult to demonstrate. The swollen obstructed allergic nose is more susceptible to infection. At the same time, infection often precedes or precipitates an allergic attack. Exposure of a susceptible patient to an allergen can activate latent virus organisms leading to infection.[13] This "jolt" reaction represents a summation of an allergen and a virus leading to symptoms in the nose as a shock organ, which neither could have produced alone. In childhood, repeated attacks of bronchitis and colds may be inflammatory reactions to an allergen, or precipitated by exposure to an allergen. These children may later develop typical allergic rhinitis. On the other hand, children with typical allergic histories, eczema, asthma, and allergic familial backgrounds, may later develop typical infectious rhinopathies. Skin tests in such patients are usually positive.

Nasal reactions are part of the systemic response of the patient to an unwelcome stimulus. In cases of respiratory infection and exposure to atmospheric irritants, the reactions are useful, and to some extent desirable. They are usually self-limited, disappearing within a few days, or upon removal of the provoking agent. Here the distressing symptoms can be ameliorated with appropriate decongestant agents, or, in the case of severe or complicated respiratory infections, antibiotics may be given, with reasonable confidence of a cure. On the other hand, when nasal reactions are the peculiar response of an individual to an allergen, or to an undesirable situation, they serve no useful purpose. The nose here is a shock organ in a stressful situation, but can furnish no response of value. It merely causes the patient symptoms which add to his problems. In these cases, symptomatic treatment is of great benefit, but often the underlying faulty pattern of response cannot be altered. Such a patient may literally be considered to be paying his way in life "through the nose."

References 1. Maures, E. R., Mendez, F. C., Jr., and Hilsinger, R. C.: Importance of the Nose in Filtering and Humidifying Inspired Air. Ohio State Med. J. 61:41-42. 2. Holmes, T., Goodell H., Wolf, S., and Wolff, H. G.: The Nose. Springfield, Ill. 1950 Charles C. Thomas p. 10 ff. 3. Boies, L. H. R.: Fundamentals of Otolaryngology. Phila. W. B. Saunders Co. 1954 p. 160. 4. Proetz, A. W.: Applied Physiology of the Nose. St. Louis 1941 Zimmerman-Petty Co. p. 6. 5. Spikard, A.: The Common Cold, A Survey. Disease of the Chest 48:545-49. Nov. 1965. 6. Ibid. 7. Bourdial, J.: Role of Allergy in Upper Respiratory Tract Infection. Europa Med. Paris 4:75-80 1965. 8. Holmes, et al. The Nose p. 22. 9. Ibid. p. 320. 10. Proetz, A. W. op. cit. p. 321. 11. Ibid. p. 320. 12. Rees, Linford J.: Physiogenic and Psychogenic Factors in Vasomotor Rhinitis. J. Psychosomatic Research 8:101 Sept. 1964. 13. Horesh, A. J.: Allergy and Infection. An Allergy 23:621-35 Dec. 1965.

Weather Forecast Throughout the Nation



RAIN TURNING TO SNOW, INCREASING WINDS AND DROPPING TEMPERATURES FOLLOWED BY COUGH, CONGESTION AND PAIN

Tussagesic® provides up to 24-hour coverage of the tough cold with a single timed-release tablet dosed morning, midafternoon and at bedtime. Coughs are broken up, runny and stuffed noses are cleared and pain is relieved.

Each Tussagesic® timed-release tablet contains:

Triaminic® (phenylpropanolamine hydrochloride 25 mg.; pheniramine maleate 12.5 mg.; pyrilamine maleate 12.5 mg.)	50 mg.
Dextromethorphan hydrobromide	30 mg.
Terpin hydrate	180 mg.
Acetaminophen	325 mg.

Side effects: Occasional drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets. Precautions: Patient should not drive a car or operate dangerous machinery if drowsiness occurs. Except under professional care, do not give to patients under 12 yrs. or those who have persistent cough, high fever, heart or thyroid disease, hypertension or diabetes or use for more than 10 days.

(Advertisement)

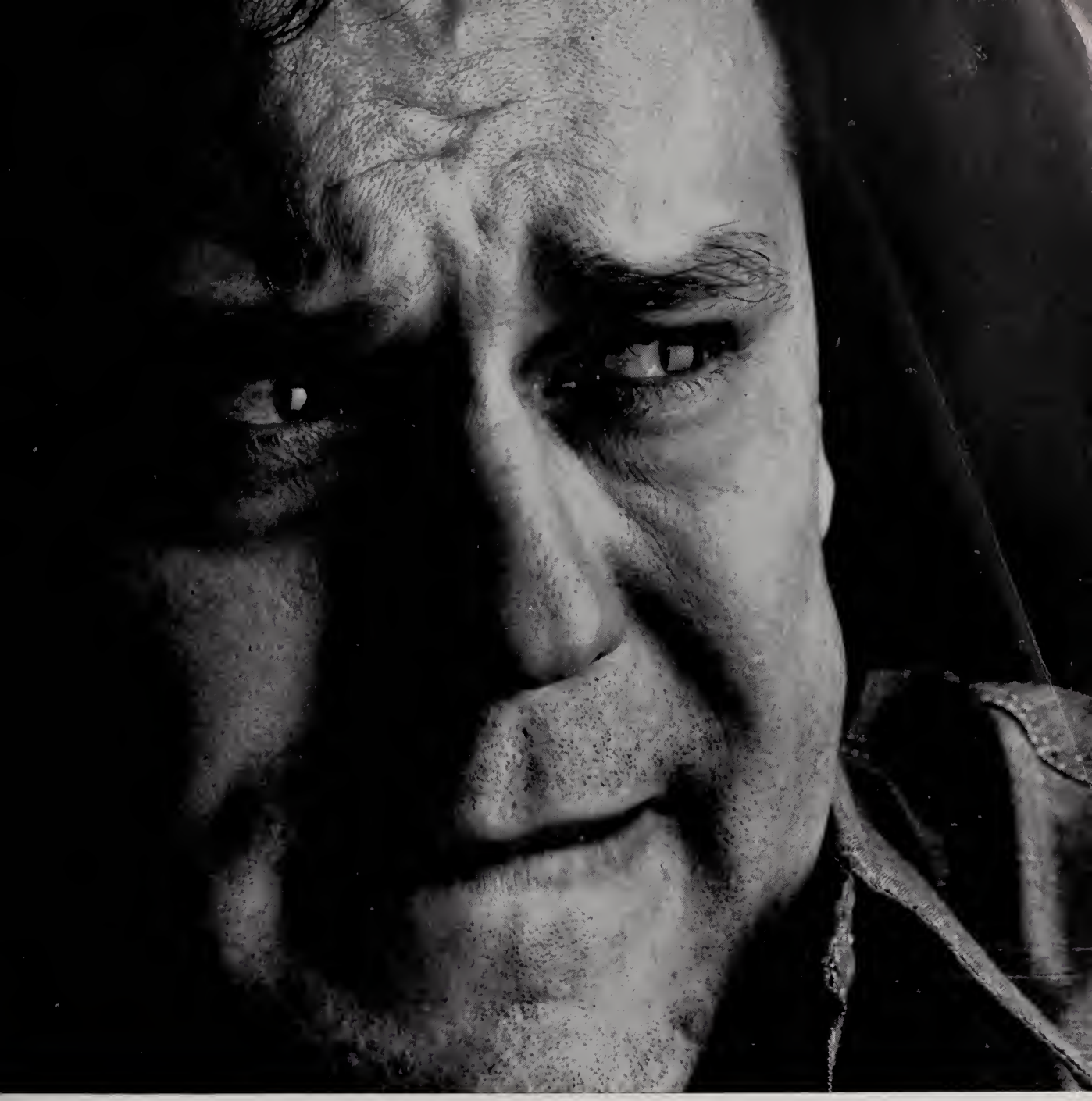


Photo professionally posed

Mike expects a penicillin injection. He's about to be pleasantly surprised.

His physician is going to prescribe an oral penicillin —PEN•VEE® K (potassium phenoxymethyl penicillin). It's usually so rapidly and completely absorbed that therapeutic serum levels are produced in 15 to 30 minutes. Higher serum levels generally last longer than with oral penicillin G.

Indications: Infections due to pathogens susceptible to oral penicillin G. Prophylaxis of rheumatic fever in patients with previous history of the disease.

Precautions: Skin rash, symptoms resembling those of serum sickness, or other manifestations of penicillin-allergy may occur. Measures for treating anaphylaxis should be readily available: epinephrine, oxygen and pressor drugs for relief of immediate allergic reactions; antihistamines and corticosteroids for delayed effects. Penicillin may delay or prevent the appearance of primary syphilitic lesions. Patients with gonorrhea who are suspected of concurrent syphilitic infections should be tested serologically for at least 3 months. Where lesions of primary syphilis are suspected, dark-field examination should precede use of penicillin. As with other antibiotics overgrowth of nonsusceptible organisms may occur; if so, discontinue and take appropriate measures. Treat β-hemolytic streptococcal infections with full therapeutic dosage for at least 10 days to prevent development of rheumatic fever or glomerulonephritis.

Contraindications: Infections caused by nonsusceptible organisms; history of penicillin sensitivity

Composition: Tablets—125 mg. (200,000 units) and 250 mg., (400,000 units); Liquid—125 mg. (200,000 units) and 250 mg. (400,000 units) per 5 cc.

Wyeth Laboratories Philadelphia, Pa.

ORAL **PEN•VEE® K**

(potassium phenoxymethyl penicillin) Wyeth®

LIBRIUM®
(chlordiazepoxide HCl)

ROCHE

WHEN ANXIETY IS A SIGNIFICANT COMPONENT OF THE CLINICAL PROFILE

Before prescribing, please consult complete product information, a summary of which follows:

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Warn against hazardous occupations requiring complete mental alertness. Use caution in administering to addiction-prone patients or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of child-bearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In elderly and debilitated and in children over five, limit dosage to smallest effective amount, increasing gradually as needed and tolerated. In general, concomitant use with other psychotropics is not recommended. Paradoxical reactions have been reported in psychiatric patients and hyperactive aggressive children. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically. Observe usual precautions in presence of impaired renal or hepatic function, impending depression and suicidal tendencies.

Adverse reactions: Drowsiness, ataxia and confusion may occur, especially in elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. Syncope occurs rarely. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis, jaundice and hepatic dysfunction) may develop occasionally, making periodic blood counts and liver-function tests advisable during protracted therapy. Individual maintenance dosages should be determined.

Dosage: Oral—Adults: Mild to moderate anxiety and tension, 5 or 10 mg t.i.d. or q.i.d.; severe states, 20 or 25 mg t.i.d. or q.i.d. Geriatric patients: 5 mg b.i.d. to q.i.d.

Supplied: Capsules, 5 mg, 10 mg and 25 mg—bottles of 50.

Roche Laboratories • Division of Hoffmann - La Roche Inc • Nutley, N.J. 07110

SPLAY
HELVES

VIRGINIA MEDICAL MONTHLY

OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

when it counts...

Chloromycetin®

(chloramphenicol)

PARKE-DAVIS

PARKE, DAVIS & COMPANY, Detroit, Michigan 48232

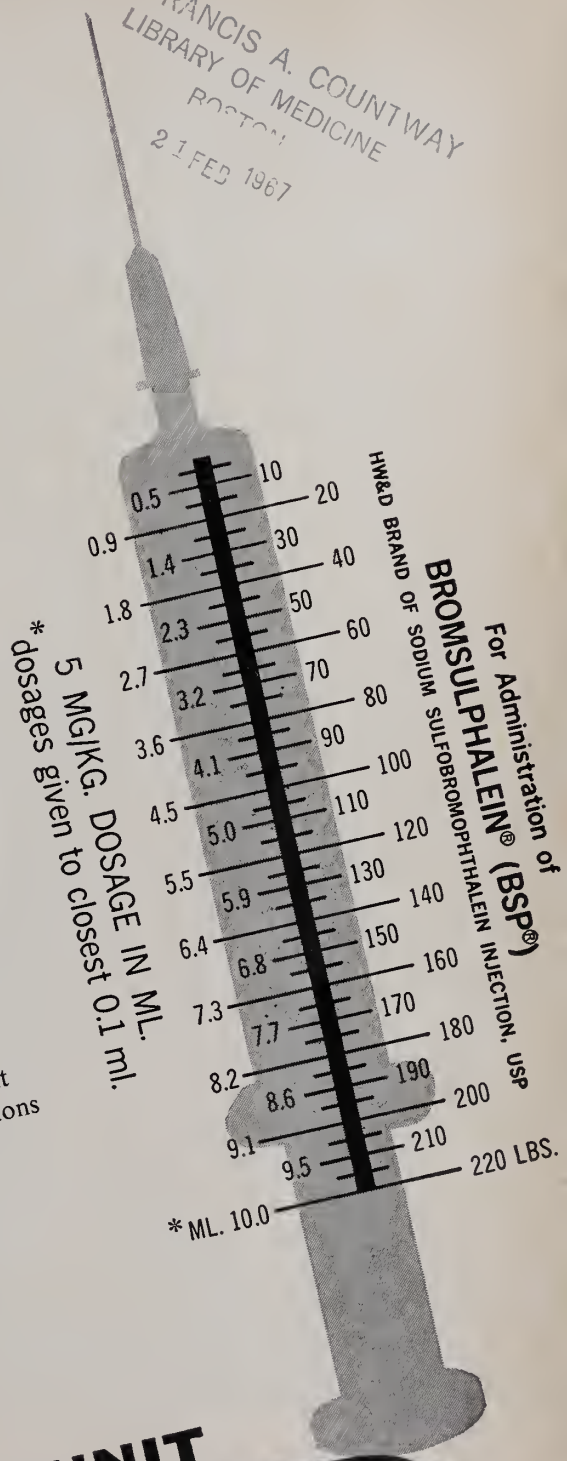
Complete information for usage available to physicians upon request.

01366

THE FRANCIS A. COUNTWAY
LIBRARY OF MEDICINE
BOSTON
21 FEB 1967

BSP® DISPOSABLE UNIT

BSP® DISPOSABLE UNIT
BSP® DISPOSABLE UNIT
BSP® DISPOSABLE UNIT
BSP® DISPOSABLE UNIT
BSP® DISPOSABLE UNIT
BSP® DISPOSABLE UNIT
BSP® DISPOSABLE UNIT
BSP® DISPOSABLE UNIT



A RELIABLE, PROVEN PRODUCT . . .

The BSP test, introduced in 1925, remains one of the most sensitive laboratory procedures available for determining hepatic function.

A STERILE, CONVENIENT PUT-UP . . .

Each BSP Disposable Unit contains: a sterile, glass, disposable syringe with the 5 mg./kg. BSP dosage schedule imprinted on the barrel, a sterile needle, alcohol swab and a 7.5 ml. or 10 ml. size ampule of Bromsulphalein.

The BSP unit is designed for maximum patient protection. The precalibrated syringe makes weight calculations unnecessary and provides for proper dosage regardless of patient-weight.

ECONOMICALLY PACKAGED . . .

Prepared for economic unit dispensing, this completely disposable put-up affords a savings in time and labor—the most costly commodities.

BSP®

BSP® DISPOSABLE UNIT

HW&D BRAND OF SODIUM SULFOBROMOPHTHALEIN INJECTION, USP

(50 mg. per ml.)

HYNSON, WESTCOTT & DUNNING, INC.

BALTIMORE, MARYLAND 21201

(BSP02)

VIRGINIA MEDICAL MONTHLY

(Founded by Landon B. Edwards, M.D., April, 1874)

PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF VIRGINIA

4205 DOVER ROAD, RICHMOND, VIRGINIA 23221

EDITORIAL BOARD

HARRY J. WARTHEN, M.D.
Chairman and Editor

H. LAMONT PUGH, M.D.
Vice Chairman

C. V. CIMMINO, M.D.

CHARLES E. DAVIS, JR., M.D.

J. SHELTON HORSLEY, III, M.D.

GORDON W. JONES, M.D.

WILLIAM H. KAUFMAN, M.D.

JOHN A. MARTIN, M.D.

ROBERT MITCHELL, JR., M.D.

JAMES M. MOSS, M.D.

W. T. THOMPSON, JR., M.D.

E. SPENCER WATKINS
Managing Editor
4205 Dover Road
Richmond, Virginia 23221

Annual Subscription—$2.00
Single Copies—25¢

TABLE OF CONTENTS

GUEST EDITORIAL
No Sin, Readability—*T. Stacy Lloyd, Jr., M.D.* 73

ORIGINAL ARTICLES
The Etiology and Treatment of Esophagitis with or without Demonstrable Hiatal Hernia—*R. N. DeNiord, M.D.*, and *Stuart H. Harris, Jr., M.D.* 75
Intermediate Polycythemia—*John E. Stevens, M.D.*, and *Oliver H. Chabot* 82
Gonadal Dysgenesis in a Eunuchoid XX Female—*John A. Board, M.D., Herschell L. Estep, M.D., Reuben B. Young, M.D.*, and *David S. Borland, M.D* 91
Peutz-Jeghers Syndrome with Report of a Case—*Richard P. Bell, Jr., M.D.* 96
Hemorrhoids—*Martin Donelson, Jr., M.D.* 101
The Need for Research on Mental Illness in Virginia—*Ian Stevenson, M.D.* 104
A Case of Transient Schizophrenia Due to Scopolamine Poisoning—*Hans H. Stroo, M.D.* 107
The Image of the Drug Industry, as Seen by Town and Gown—*William J. Hagood, Jr., M.D.*, and *John A. Owen, Jr., M.D.* 110

CLINICOPATHOLOGICAL CONFERENCE
Marked Edema, Wheezing and Cardiomegaly 115

PUBLIC HEALTH
Histoplasmosis 123

MENTAL HEALTH
Prevalence of Mental Health Problems in a Suburban Community—*Edwin S. Zolik, Ph.D.*, and *Joseph R. Marches* 125

DIAGNOSTIC LABORATORY MEDICINE
The Technicon Sequential Multiple Analyzer®, 12 Channel (SMA-12)—*Robert L. Lynch, M.S.* 128

PRESIDENT'S MESSAGE 130

EDITORIAL
The Distal Esophagogastric Closing Mechanism—*Christian V. Cimmino, M.D.* 131
The South and Tommy Atkins—*Harry J. Warthen, M.D.* 133

NEWS 135

OBITUARIES 138

The MONTHLY is not responsible for the opinions and statements of its contributors.
All advertisements are accepted subject to the approval of the Editorial Board.

Second Class Postage paid at Richmond, Virginia.

INDEX TO ADVERTISERS—Page 80

When the stagnant sinus must be drained...

Transillumination of the sinuses – diffuse shadow on right side of face indicates unilateral maxillary sinusitis.

In the common cold, Neo-Synephrine is unsurpassed for reducing nasal turgescence. It stops the stuffy feeling at once. It opens sinus ostia to re-establish drainage and lessen the chance of sinusitis. With Neo-Synephrine, in the concentrations most commonly used, decongestion lasts long enough for extended breathing comfort, without endangering delicate respiratory tissue. Systemic side effects are virtually unknown. There is little rebound tendency.

Winthrop Laboratories, New York, N.Y. 10016 Winthrop

Neo-Synephrine® HCl

Brand of phenylephrine hydrochloride

is available in a variety of forms, for all ages:

- 1/8% solution for infants
- 1/4% solution for children and adults
- 1/4% pediatric nasal spray for children
- 1/2% solution for adults
- 1/2% nasal spray for adults
- 1/2% jelly for children and adults
- 1% solution for adults (resistant cases)

Also NTZ® Solution or Spray
Antihistamine-decongestant

(1028M)

OFFICERS AND COUNCILORS OF THE MEDICAL SOCIETY OF VIRGINIA 1966-67

President—K. K. Wallace, M.D., Norfolk
President-Elect—Thomas W. Murrell, Jr., M.D., Richmond
Past-President—Alexander McCausland, M.D., Roanoke
Vice-Presidents—Hugh G. Stokes, M.D., Williamsburg
Francis H. McGovern, M.D., Danville
James M. Moss, M.D., Alexandria
Executive Secretary-Treasurer—Robert I. Howard, Richmond
Speaker of the House—W. Callier Salley, M.D., Norfolk
Vice-Speaker—Thomas S. Edwards, M.D., Charlottesville

COUNCILORS

F. Ashton Carmines, M.D., Newport News
William S. Hotchkiss, M.D., Norfolk
William R. Hill, M.D., Richmond
A. Tyree Finch, M.D., Farmville
W. Nash Thompson, M.D., Stuart
Harry B. Stone, M.D., Roanoke
Dennis P. McCarty, M.D., Front Royal
W. D. Liddle, M.D., Fredericksburg
W. W. Walton, M.D., Pulaski
Carl P. Parker, M.D., Falls Church

DELEGATES AND ALTERNATES TO THE AMERICAN MEDICAL ASSOCIATION

Delegates
1966-67
W. Linwood Ball, M.D., Richmond
Allen Barker, M.D., Roanoke

1967-68
W. Callier Salley, M.D., Norfolk

Alternates
1966-67
Alexander McCausland, M.D., Roanoke
Russell Buxton, M.D., Newport News

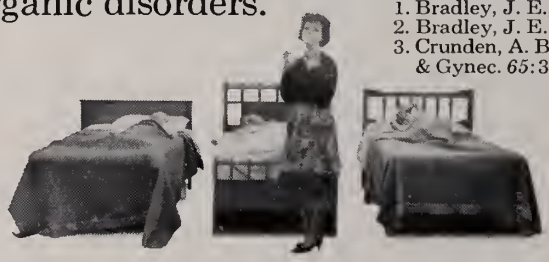
1967-68
Richard E. Palmer, M.D., Alexandria

(*Committees on pages* 10 *and* 14)

Togetherness....

...can be rough when epidemics of nausea and vomiting strike a family. Emetrol offers prompt, safe relief. It is free from toxicity[1] or side effects[2,3] and will not mask symptoms of serious organic disorders.

1. Bradley, J. E., *et al.*: J. Pediat. *38*:41 (Jan.) 1951.
2. Bradley, J. E.: Mod. Med. *20*:71 (Oct. 15) 1952.
3. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. *65*:311 (Feb.) 1953.



ROREER
WILLIAM H. RORER, INC.
Fort Washington, Pa.

Emetrol®
phosphorated carbohydrate solution
emesis control

raldrate

(SYRUP OF CHLORAL HYDRATE)

A palatable chloral hydrate syrup

containing 10 grains in each teaspoonful.

J. and V.

JONES and VAUGHAN
Richmond 26, Virginia

DISABILITY INCOME INSURANCE

3 REASONS WHY

If you are disabled by sickness or accident and unable to work, your income stops.

Where do you get the money . . . .

. . **that you normally spend on food?**

. . **that you normally spend on shelter?**

. . **that it takes to maintain your office?**

There is no question how your income will continue if you enroll in the DISABILITY INCOME PLAN which is sponsored and recommended by THE MEDICAL SOCIETY OF VIRGINIA.

With these outstanding features:

✓ Benefits paid directly to you. You spend the money any way you want;

✓ This plan is yours until age 75; (Plan A or Plan B)

✓ Under Plan A—Benefits paid to age 65 for sickness—lifetime for accident.

As an example: If you were disabled at Age 50 it would be possible for you to collect $144,000.00 (15 years at $800.00 per month)—NOT 5 years. At younger ages the amount possible to collect is much greater.

Protect your earnings and ability to pay. Get complete details during the Open Enrollment Period—now in progress.

Mail to

David A. Dyer Insurance Agency
Medical Arts Building
Roanoke, Virginia 24011

Dave,

I have enough problems without having to worry about how I'll pay the rent, the grocery bills, or keep the office open if I'm disabled. Please rush to me, without obligation, all the facts on the Disability Income Program for physicians and surgeons, underwritten by Insurance Company of North America, Phila., Pa.

Name _____

Address _____
Street

_____
(City) (State) (Zip)

Underwritten by The Insurance Company of North America, Philadelphia, Pa.

when was your last check-up?

Have YOU failed to make certain that you're well protected from the high costs of accident and sickness? If so, your budget is in danger of shattering any day now.

THE MEDICAL SOCIETY OF VIRGINIA has just the thing to relieve your anxieties about possible severe financial loss from accident or sickness:

- **Professional OVERHEAD Expense** to pay those fixed office expenses for you while you can't practice . . . and keep your office open!
- **"Catastrophic" HOSPITAL-NURSE Expenses** to meet those unexpected high costs from serious accident or sickness disability!

Both Plans go to work immediately, protecting your budget with their LOW-COST, BROAD COVERAGE ingredients.

Call us today—collect. Find out why The Medical Society of Virginia has selected these sensible Insurance Plans as the best available to its Members. We'll send you more information. No obligation, of course.

(But, plenty of smart financial advice!)

ADMINISTRATOR: David A. Dyer
Medical Arts Building,
Roanoke, Virginia 24011
Phone: 344-5000

Both Plans underwritten by:

AMERICAN CASUALTY COMPANY
OF READING, PENNSYLVANIA • 19603

COMMITTEES

THE MEDICAL SOCIETY OF VIRGINIA

1966-1967

Standing Committees

Editorial Board

Harry J. Warthen, M.D., *Chairman & Editor*, Richmond
H. Lamont Pugh, M.D., *Vice-Chairman* Arlington
Robert E. Mitchell, Jr., M.D. (2) Richmond
William H. Kaufman, M.D. (2) Roanoke
W. T. Thompson, Jr., M.D. (2) Richmond
John A. Martin, M.D. (1) Roanoke
C. V. Cimmino, M.D. (1) Fredericksburg
Charles E. Davis, Jr., M.D. (1) Norfolk
J. Shelton Horsley, III, M.D. (3) Charlottesville
Gordon W. Jones, M.D. (3) Fredericksburg
James M. Moss, M.D. (3) Alexandria

Ethics

Russell G. McAllister, M.D., *Chairman* (1) Richmond
A. L. Van Name, Jr., M.D. (3) Urbanna
Ashby Coleman, M.D. (2) Altavista

Grievance

Russell Buxton, M.D., *Chairman* (1) Newport News
Fletcher J. Wright, M.D. (2) Petersburg
Richard T. Palmer, M.D. (3) Alexandria
McLemore Birdsong, M.D. (4) Charlottesville
Alexander McCausland, M.D. (5) Roanoke

Legislative

James D. Hagood, M.D., *Chairman* (3) Clover
W. C. Elliott, M.D., *Vice-Chairman* (1) Lebanon
George B. Kegley, M.D. (2) Bland
Dean B. Cole, M.D. (2) Richmond
Charles A. Young, M.D. (2) Roanoke
William A. Pennington, M.D. (1) Buckingham
Walter J. Rein, M.D. (3) Richmond
Mallory S. Andrews, M.D. (3) Norfolk
Edwin L. Kendig, Jr., M.D., (1) Richmond

Public Relations

John Wyatt Davis, Jr., M.D., *Chairman* (2) Lynchburg
Thomas W. Murrell, Jr., M.D., *Vice-Chairman* (3) Richmond
Thomas H. Jennings, M.D. (1) Bedford
Warren C. Gregory, M.D. (1) Winchester
Marcellus A. Johnson, III, M.D. (2) Roanoke
Patrick C. Devine, M.D. (3) Norfolk

Judicial

John A. Martin, M.D., *Chairman* (1) Roanoke
Charles W. Whitmore, M.D. (2) Lynchburg
Richard H. Fisher, M.D. (3) Roanoke

Finance

Walter A. Porter, M.D., *Chairman* (2) Hillsville
Hunter H. McGuire, Jr., M.D. (1) Richmond
Michael A. Puzak, M.D. (3) Arlington

Medical Service

William D. Dolan, M.D., *Chairman* (2) Arlington
Beverley B. Clary, M.D. (2) Richmond
Ray A. Moore, Jr., M.D. (2) Farmville
David J. Cracovaner, M.D. (1) Newport News
W. C. Stone, M.D. (1) Roanoke
R. S. LeGarde, M.D. (1) Orange
Carl E. Stark, M.D. (1) Wytheville
Richard M. Lee, M.D. (1) Ashland
C. Newton Van Horn, Jr., M.D. (2) Norfolk
Robert E. Musgrave, M.D. (2) Danville

Program

James C. Respess, M.D., *Chairman* (1) Charlottesville
Fitzhugh Mayo, M.D. (2) Virginia Beach
William D. Dolan, M.D. (3) Arlington

Membership

Paul D. Camp, M.D., *Chairman* (1) Richmond
Richard F. Hawkins, M.D. (2) Lynchburg
Andrew Hargroves, Jr., M.D. (3) Portsmouth

Blue Shield Directors

Fletcher J. Wright, Jr., M.D., *Chairman* Petersburg
Frank N. Buck, Jr., M.D., Lynchburg
R. Campbell Manson, M.D., Richmond
John R. Saunders, M.D., Richmond
Julian H. Yeatman, M.D., Fork Union
Walter P. Adams, M.D., Norfolk
W. Callier Salley, M.D., Norfolk
Russell Buxton, M.D., Newport News
Matthew L. Lacy, II, M.D., South Hill
L. F. Moss, M.D., Fredericksburg
L. Benjamin Sheppard, M.D., Richmond
William D. Liddle, M.D., Fredericksburg

Special Committees

National Legislation

Richard E. Palmer, M.D., *Chairman*, Alexandria
F. Ashton Carmines, M.D., Newport News
William S. Hotchkiss, M.D., Norfolk
William R. Hill, M.D., Richmond
William Grossmann, M.D., Petersburg
W. Nash Thompson, M.D., Stuart
Harry B. Stone, Jr., M.D., Roanoke
Dennis P. McCarty, M.D., Front Royal
W. D. Liddle, M.D., Fredericksburg
W. W. Walton, M.D., Pulaski
Carl P. Parker, Jr., M.D., Falls Church

Medicine & Religion

Henry M. Rogers, Jr., M.D., *Chairman* Norfolk
John Wyatt Davis, Jr., M.D., Lynchburg
Charles R. Riley, M.D., Richmond
Philip Austin, M.D., Alexandria
John C. Crawford, M.D., Virginia Beach
Bernard H. Kasinoff, M.D., Staunton

Executive Committee

F. Ashton Carmines, M.D., *Chairman* Newport News
W. Callier Salley, M.D., Norfolk
Alexander McCausland, M.D., Roanoke
Mack I. Shanholtz, M.D., *Ex-Officio* Richmond

National Emergency Medical Service

W. Ross Southward, Jr., M.D., *Chairman*, Richmond
Charles R. Riley, M.D., Richmond
E. Cato Drash, M.D., Charlottesville
Meyer I. Krischer, M.D., Norfolk
D. Coleman Booker, M.D., Hopewell
David J. Cracovaner, M.D., Newport News
William F. Weller, M.D., Roanoke
Louis A. Houff, M.D., Clifton Forge
Virgil R. May, Jr., M.D.

Medicare

Russell Buxton, M.D., *Chairman* Newport News
William Grossmann, M.D., *Vice-Chairman*, Petersburg
F. Preston Titus, M.D., Alexandria
Douglas Divers, M.D., Pulaski
John A. Martin, M.D., Roanoke
James B. Hutt, Jr., M.D., Warrenton
Ralph R. Landes, M.D., Danville
Daniel D. Talley, III, M.D., Richmond
John T. Glick, M.D., Broadway
Alexander McCausland, M.D., Roanoke
Thomas W. Murrell, Jr., M.D., Richmond
Robert J. Faulconer, M.D., Norfolk

Alcoholism

William S. Sloan, M.D., *Chairman*, Petersburg
James Asa Shield, M.D., Manakin-Sabot
Ebbe C. Hoff, M.D., Richmond
William F. Gibbs, M.D., Norfolk
Weir M. Tucker, M.D., Richmond

Liaison to State Department of Health

George J. Carroll, M.D., *Chairman*, Suffolk
Edwin L. Kendig, Jr., M.D., Richmond
W. Nash Thompson, M.D., Stuart
K. K. Wallace, Jr., M.D., Virginia Beach

Advisory to Department of Public Welfare

Robley D. Bates, Jr., M.D., *Chairman* Richmond
H. W. Felton, M.D., Deltaville
Jesse M. Tucker, Jr., M.D., Huddleston
Frank B. Wolfe, M.D., Rocky Mount
W. C. Elliott, M.D., Lebanon
William H. Chapman, Jr., M.D., Suffolk
Robert B. Webb, Jr., M.D., Petersburg

Dependents' Medical Care

W. Linwood Ball, M.D., *Chairman*, Richmond
Hunter B. Frischkorn, M.D., Richmond
Richard Michaux, M.D., Richmond
William E. Byrd, M.D., Norfolk
John A. Vann, M.D., Norfolk
Paul Hogg, M.D., Newport News
Leroy Smith, M.D., Richmond

(*Continued on page* 14)

DIARRHEA

CANTIL®
(mepenzolate bromide)

LAKESIDE

Diarrhea, one of the most vexing symptoms of common G. I. disorders can often be curbed with Cantil (mepenzolate bromide), bringing welcome relief to the harassed patient. Relatively specific for the hyperactive colon, it helps reduce diarrhea, pain and spasm with minimal effect on other viscera. Cantil (mepenzolate bromide) is indicated whenever these symptoms are associated with irritable colon, gastroenteritis, diverticulitis, and mild to moderate ulcerative colitis.

It is an anticholinergic drug without narcotic properties. Side effects are usually mild.

IN BRIEF: One or two tablets three times a day and one or two at bedtime usually provide prompt relief. Cantil with Phenobarbital may be prescribed if sedation is required.

Dryness of the mouth, blurring of vision, constipation, nausea, vomiting, bloating and dizziness may occur but are usually mild and transitory. Urinary retention is rare. Caution should be observed in prostatic hypertrophy — withhold in glaucoma. Contraindicated in patients sensitive to phenobarbital and/or Cantil (mepenzolate bromide); in toxic megacolon, obstruction of G. I. or G. U. tract.

SUPPLIED: CANTIL (mepenzolate bromide) — 25 mg. per scored tablet. Bottles of 100 and 250. CANTIL with PHENOBARBITAL — containing in each scored tablet 16 mg. phenobarbital (warning: may be habit forming) and 25 mg. mepenzolate bromide. Bottles of 100 and 250.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

when he just can't sleep

Tuinal®

Sodium Amobarbital and Sodium Secobarbital

(One-Half Sodium Amobarbital and One-Half Sodium Secobarbital)

Tuinal helps wakeful patients fall asleep fast, stay asleep all night.

Indications: Tuinal, comprised of equal parts of Seconal® Sodium (sodium secobarbital, Lilly) and Amytal® Sodium (sodium amobarbital, Lilly), is indicated for prompt and moderately long-acting hypnosis.

Contraindications: Barbiturates should not be administered to anyone with a history of porphyria, nor should they be given in the presence of uncontrolled pain, because excitement may result.

Warning: May be habit-forming.

Precautions: Tuinal should be used cautiously in patients with decreased liver function, since prolongation of effect may occur.

Adverse Reactions: Idiosyncrasy, such as excitement, hangover, or pain, may appear. Hypersensitivity reactions occur in some patients, especially in those with asthma, urticaria, or angioneurotic edema.

Dosage: 1½ to 3 grains at bedtime.

Supplied: ¾, 1½, and 3-grain Pulvules®.

Additional information available to physicians upon request.
Eli Lilly and Company • Indianapolis, Indiana 46206

Lilly

700196

Special Committees (continued from page 10)

Advisory to Woman's Auxiliary

Ralph R. Landes, M.D., *Chairman*, Danville
Clifford G. Gaddy, M.D., Danville
Francis H. McGovern, M.D., Danville
Walter C. Fitzgerald, M.D., Danville
John R. St. George, M.D., Portsmouth
W. Nash Thompson, M.D., Stuart

Continuing Education

James C. Respess, M.D., *Chairman*, Charlottesville
Hunter H. McGuire, Jr., M.D., Richmond
Waverly R. Payne, M.D., Newport News
Kenneth W. Berger, M.D., Falls Church
Charles E. Davis, M.D., Norfolk
John C. Hortenstine, M.D., Winchester
Michael J. Moore, M.D., Roanoke
John W. Devine, Jr., M.D., Lynchburg
Walter C. Fitzgerald, M.D., Danville
Charles M. Caravati, M.D., Richmond
Charles L. Crockett, Jr., M.D., Charlottesville

Mental Health

John R. Saunders, M.D., *Chairman*, Richmond
W. D. Buxton, M.D., Charlottesville
Robert C. Longan, Jr., M.D., Richmond
Joseph R. Blalock, M.D., Marion
Emory F. Hodges, Jr., M.D., Alexandria
Samuel S. Morrison, M.D., Leesburg
R. Terrell Wingfield, M.D., Lynchburg
Ira L. Hancock, Jr., M.D., Creeds
Robert B. Neu, M.D., Arlington
Robert H. Thrasher, M.D., Norfolk
Frank Strickler, M.D., Roanoke

Walter Reed Commission

Raymond S. Brown, M.D., *Chairman*, Gloucester
Thomas E. Smith, M.D., Hayes
Sterling N. Ransone, M.D., Mathews

Liaison to State Bar

John O. Boyd, Jr., M.D., *Chairman*, Roanoke
William Dolan, M.D., Arlington
G. T. Mann, M.D., Richmond
Carrington Williams, Jr., M.D., Richmond
George M. Nipe, M.D., Harrisonburg
John Franklin, M.D., Norfolk
Claude P. Sherman, M.D., Martinsville
Arthur A. Kirk, M.D., Portsmouth
David W. White, M.D., Lynchburg
George B. Shepherd, M.D., Norfolk

Liaison to Confer with U.M.W. Welfare Fund

James M. Peery, M.D., *Chairman*, Cedar Bluff
Kinloch Nelson, M.D., Richmond
Mack I. Shanholtz, M.D., Richmond
Rufus P. Brittain, M.D., Tazewell
Lewis Ingram, M.D., Norton
Kenneth R. Crispell, M.D., Charlottesville
W. Linwood Ball, M.D., Richmond
Allen Barker, M.D., Roanoke
C. C. Hatfield, M.D., Saltville

Advisory to Virginia Hospital Association

James Asa Shield, M.D., *Chairman*, Manakin-Sabot
Richard E. Palmer, M.D., Alexandria
Alexander McCausland, M.D., Roanoke
Dennis P. McCarty, M.D., Front Royal
John T. Myles, M.D., Newport News

Heart, Cancer & Stroke

Frank Alton Wade, M.D., *Chairman*, Roanoke
Jason E. McClelland, M.D., Newport News
Anthony J. Munoz, M.D., Farmville
W. J. Hagood, M.D., Clover
Robert A. A. Mackintosh, M.D., Vienna
James L. Chitwood, M.D., Pulaski
O. Anderson Engh, M.D., Arlington
James C. Respess, M.D., Charlottesville
Howard McCue, Jr., M.D., Richmond
Robert K. Maddock, M.D., Norfolk

Advisory to State Department of Community Colleges

O. T. Graham, Jr., M.D., *Chairman*, Richmond
Charles W. Byrd, M.D., Richmond
Adney K. Sutphin, M.D., Richmond
William C. Gill, Jr., M.D., Richmond
Robert L. Cassidy, M.D., Culpeper
John Wyatt Davis, Jr., M.D., Lynchburg
Special Consultants:
Mrs. Lonie Kanak, Richmond
Mrs. Ruth Dize, Norfolk

Pharmacy

Mallory S. Andrews, M.D., *Chairman* Norfolk
W. W. Walton, M.D., Pulaski
George A. Reynolds, M.D., Bowling Green
J. Warrick Thomas, M.D., Richmond
F. Clyde Bedsaul, M.D., Floyd

Traffic Safety

Southgate Leigh, Jr., M.D., *Chairman* Norfolk
J. E. Rawls, Jr., M.D., Suffolk
Carney C. Pearce, Jr., M.D., Petersburg
James T. Tucker, M.D., Richmond
Maurice M. Miller, M.D., Norfolk
Robert W. Waddell, M.D., Virginia Beach
Adney K. Sutphin, M.D., Richmond
William Minor Deyerle, M.D., Richmond

Advisory to Work with Medical & Allied Organizations

J. Shelton Horsley, III, M.D., *Chairman*, Charlottesville
William T. Clarke, M.D., Richmond
Leslie A. Faudree, M.D., Bassett
William B. Brown, M.D., Gloucester
W. Graham Stephens, M.D., Troutville
Robert L. Payne, Jr., M.D., Norfolk

Handicapped Child

Wililam G. Thurman, M.D., *Co-Chairman* Charlottesville
William E. Laupus, M.D., *Co-Chairman* Richmond
Glenn C. Hall, Jr., M.D., Radford
Julia E. Edmunds, M.D., Clifton Forge
Henry T. Brobst, M.D., Roanoke
David B. Walthall, III, M.D., Dublin
Ralph R. Landes, M.D., Danville

Air Pollution

W. S. Hotchkiss, M.D., *Chairman* Norfolk
Thomas N. Hunnicutt, Jr., M.D., Newport News
Edward S. Ray, M.D., Richmond
Daniel N. Anderson, M.D., Norfolk
Edward M. Bowles, Jr., M.D., Covington
Charles L. Savage, M.D.. Waynesboro
James M. MacMillan, M.D.

Cancer

Claiborne W. Fitchett, M.D., *Chairman*, Norfolk
John R. Kight, M.D., Norfolk
William F. Enos, M.D., Fairfax
W. Ross Southward, Jr., M.D., Richmond
Carey A. Stone, Jr., M.D., Radford
Walter C. Fitzgerald, M.D., Danville
W. W. Old, III, M.D., Lexington
R. S. Boyd, M.D., Winchester
J. Shelton Horsley, III, M.D., Charlottesville
Russell Buxton, M.D., Newport News
James C. Respess, M.D., Charlottesville
W. S. Johnson, M.D., Roanoke

Venereal Disease Control

Robert F. Selden, Jr., M.D., *Chairman*, Charlottesville
W. R. Southward, M.D., Richmond
William H. Kaufman, M.D., Roanoke
Giles Q. Gilmer, M.D., Lebanon
Charles J. Devine, Jr., M.D., Norfolk

Child Health

Robe t H. Anderson, M.D., *Chairman* Alexandria
Harry D. Cox, M.D., Portsmouth
Robert M. McDonald, M.D., Harrisonburg
William D. Liddle, M.D., Fredericksburg
Ralph Ownby, Jr., M.D., Richmond
Jefferson D. Beale, Jr., M.D., Danville
W. Glenn Hardy, M.D., Bedford
Kathryn D. Hill, M.D., Virginia Beach
Julia E. Edmunds, M.D., Clifton Forge
Nelson S. Payne, M.D., Norfolk

Rehabilitation

Alexander McCausland, M.D., *Chairman* Roanoke
Joseph R. Blalock, M.D., Marion
George A. Duncan, M.D., Norfolk
John B. Redford, M.D., Richmond
J. Treacy O'Hanlan, M.D., Waynesboro
Hunter S. Jackson, M.D., Richmond
G. S. Fitz-Hugh, M.D., Charlottesville
Frank C. McCue, III, M.D., Charlottesville
Reno Porter, M.D., Richmond
James L. Thomson, M.D., Norfolk
Carney C. Pearce, Jr., M.D., Petersburg
David K. Webster, M.D., Staunton
Joseph T. Kaye, M.D., Alexandria

Maternal Health

Chester L. Riley, M.D., *Chairman* Winchester
A. Tyree Finch, M.D., Farmville
Mason C. Andrews, M.D., Norfolk
John R. Saunders, M.D., Lynchburg
George S. Hurt, M.D., Roanoke
Frank G. Turner, M.D., Danville
William N. Thornton, Jr., M.D. Charlottesville
James J. Dunne, M.D., Richmond
K. Charles Latven, M.D., Arlington
William M. Gammon, M.D., Bristol
H. Hudnall Ware, M.D., Richmond
Garrett Dalton, M.D., Radford
George Speck, M.D., Alexandria
Brock D. Jones, Jr., M.D., Norfolk
James M. Habel, Jr., M.D., Suffolk

Conservation of Sight

Edgar Childrey, Jr., M.D., *Chairman* Richmond
Marion K. Humphries, Jr., M.D., Charlottesville
Eugene W. Heatwole, M.D., Newport News
W. Wickham Taylor, M.D., Norfolk
E. W. Perkins, M.D., Richmond
William F. Hatcher, M.D., Roanoke
William P. McGuire, M.D., Winchester

Conservation of Hearing

Cary N. Moon, Jr., M.D., *Chairman*, Charlottesville
Neil Callahan, M.D., Portsmouth
Fletcher D. Woodward, M.D., Charlottesville
John B. Gorman, M.D., Lynchburg
John G. Sellers, M.D., Norfolk
W. Copley McLean, M.D., Charlottesville
George H. Williams, M.D., Richmond
Houston L. Bell, M.D., Roanoke

Insurance

Andrew F. Giesen, M.D., *Chairman*, Radford
W. D. Lewis, M.D., Martinsville
A. L. Herring, Jr., M.D., Richmond
Harry B. Stone, Jr., M.D., Roanoke
C. M. McCoy, M.D., Norfolk
Alvin E. Conner, M.D., Manassas
Fletcher J. Wright, Jr., M.D., Petersburg

Photo professionally posed

Mike expects a penicillin injection. He's about to be pleasantly surprised.

His physician is going to prescribe an oral penicillin —PEN•VEE® K (potassium phenoxymethyl penicillin). It's usually so rapidly and completely absorbed that therapeutic serum levels are produced in 15 to 30 minutes. Higher serum levels generally last longer than with oral penicillin G.

Indications: Infections due to pathogens susceptible to oral penicillin G. Prophylaxis of rheumatic fever in patients with previous history of the disease.

Precautions: Skin rash, symptoms resembling those of serum sickness, or other manifestations of penicillin-allergy may occur. Measures for treating anaphylaxis should be readily available: epinephrine, oxygen and pressor drugs for relief of immediate allergic reactions; antihistamines and corticosteroids for delayed effects. Penicillin may delay or prevent the appearance of primary syphilitic lesions. Patients with gonorrhea who are suspected of concurrent syphilitic infections should be tested serologically for at least 3 months. Where lesions of primary syphilis are suspected, dark-field examination should precede use of penicillin. As with other antibiotics overgrowth of nonsusceptible organisms may occur; if so, discontinue and take appropriate measures. Treat β-hemolytic streptococcal infections with full therapeutic dosage for at least 10 days to prevent development of rheumatic fever or glomerulonephritis.

Contraindications: Infections caused by nonsusceptible organisms; history of penicillin sensitivity.

Composition: Tablets—125 mg. (200,000 units) and 250 mg., (400,000 units); Liquid—125 mg. (200,000 units) and 250 mg. (400,000 units) per 5 cc.

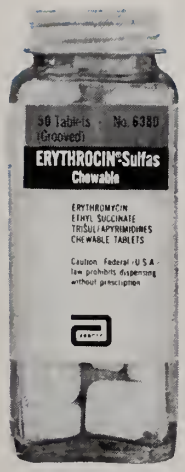
Wyeth Laboratories Philadelphia, Pa.

ORAL **PEN·VEE® K**

(potassium phenoxymethyl penicillin) Wyeth

Perhaps there have been times when you wanted to prescribe erythromycin and triple sulfas for little patients. Now you can—with a choice of two new fine-tasting pediatric forms.

New–Two Pediatric Forms of Erythromycin and Triple Sulfas



ERYTHROCIN®-SULFAS Chewable (Erythromycin ethyl succinate-trisulfapyrimidines chewable tablet)

In clinical trials[1,2], this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

A clinical cure rate of 94.5%

ERYTHROCIN®-SULFAS Granules (Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated[1,2]—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

701358

A clinical cure rate of 97.7%

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.

ABBOTT

Brief Summary on next page

ERYTHROCIN®-SULFAS
Brief Summary

Contraindications: Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

Warnings: As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

Precautions, Side Effects: Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steriods, etc.) should be administered and the drug withdrawn.

Adverse Reactions: Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

Supplied: The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.

ABBOTT

701358

DIARRHEA
MUCOUS COLITIS
DIVERTICULITIS
SPASTIC URETERITIS
BLADDER SPASM

are relieved with.....

Trocinate®

BRAND THIPHENAMIL HCl

Minimum dosage 400 mg., q. 4 h. until relief is constant, adjust maintenance dosage.

A therapeutic blood level cannot be obtained with small dosage. Trocinate is metabolized and eliminated in the urine as harmless degradation products—a safety factor. Sixteen years of clinical usage with the absence of untoward effects establishes the safety of Trocinate. The autonomic nervous system is not involved in its prompt action.

NOW AVAILABLE IN 2 STRENGTHS, 100 mg. and 400 mg.
PINK SUGAR-COATED TABLETS

Literature and samples available.

WM. P. POYTHRESS & CO., INC.
RICHMOND, VIRGINIA 23217

Manufacturers of ethical pharmaceuticals since 1856

This space
reserved
for
additions
to the
TUBEX
system

Only **TUBEX** offers so complete a line of closed-system injectables, and it's still growing

—no other system is safer

—no other system is more efficient

—no other system offers more convenience

—no other system assures greater patient comfort

TUBEX sterile cartridge-needle units are prefilled with measured doses. Each unit is used once, and discarded. This eliminates danger of cross contamination, as well as problems of sterilization, storage, and measurement. Ultra-sharp, siliconized needles keep patient discomfort to a minimum. No other injectable system is easier to use, easier to store, easier to carry.

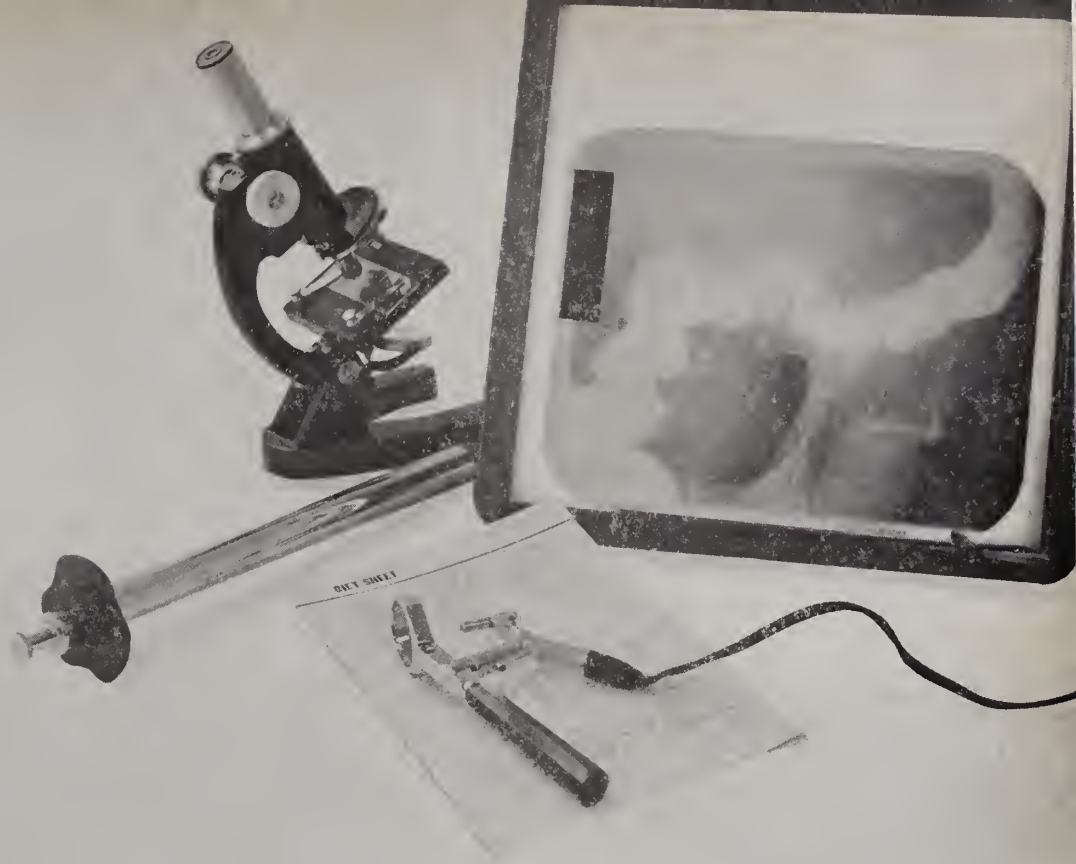
JUST ARRIVED!

4 New TUBEX® Sterile
Cartridge-Needle Units
Vitamin B Complex with Vitamin B_{12}
Hydroxocobalamin, 100 mcg./cc.
Hydroxocobalamin, 1000 mcg./cc.
Thiamine HCl, U.S.P., 100 mg./cc.

TUBEX®

Wyeth® SERVICE TO MEDICINE

Closed Injection System
Sterile Cartridge-Needle Unit
Hypodermic Syringe
Wyeth Laboratories • Philadelphia, Pa.



in digestive disorders:

B and C vitamins aid therapy. Nausea, vomiting, and severe diarrhea may seriously interfere with the digestion and absorption of nutrients. STRESSCAPS capsules, containing therapeutic quantities of vitamins B and C, may help meet the needs of these patients. In digestive disorders, as in many stress conditions, STRESSCAPS vitamins aid therapy.

Stresscaps®

Stress Formula Vitamins Lederle

FOR PROFESSIONAL RECOMMENDATION ONLY

Each capsule contains:

Vitamin B_1 (as Thiamine Mononitrate)	10 mg
Vitamin B_2 (Riboflavin)	10 mg
Vitamin B_6 (Pyridoxine HCl)	2 mg
Vitamin B_{12} Crystalline	4 mcgm
Vitamin C (Ascorbic Acid)	300 mg
Niacinamide	100 mg
Calcium Pantothenate	20 mg

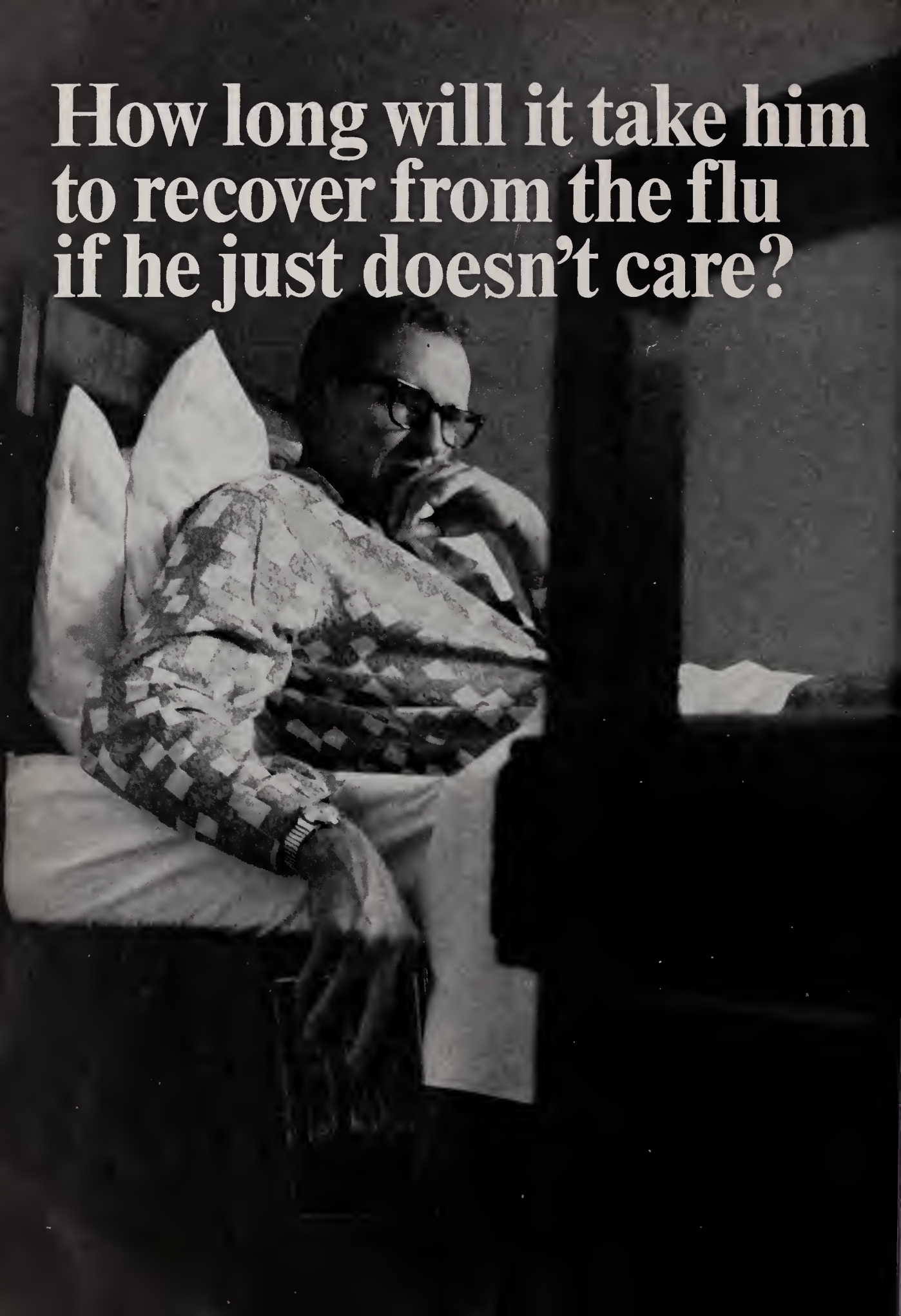
Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 and 100; bottles of 500.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

Lederle

632 6-3913

How long will it take him to recover from the flu if he just doesn't care?



Does he really care? Is he alert, encouraged, positive and optimistic about getting out of bed and back to work soon?

Or is he giving in to the depressing impact of confinement?

When functional fatigue complicates convalescence, Alertonic can help...

Pleasant-tasting Alertonic is pipradrol hydrochloride —an effective cerebral stimulant whose gentle analeptic action helps counteract the apathy and inertia that so often delay convalescence—together with an excellent vitamin and mineral formula, in a satisfying 15% alcohol vehicle.

Nothing fosters confidence and a sense of well-being better than your own personal warmth, understanding and encouragement together with Alertonic to help insure prompt response.

Adequate dosage is important: Prescribe Alertonic—one tablespoonful t.i.d., 30 minutes before meals...tastes best chilled.

And for your patient's sake, prescribe Alertonic in the convenient, economical one-pint bottle.

Alertonic®

Available Only On Prescription

Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%; pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B_1) (10 MDR*), 10 mg.; riboflavin (vitamin B_2) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B_6), 1 mg.; niacinamide (5 MDR), 50 mg.; choline,† 100 mg.; inositol,† 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

*Multiple of adult Minimum Daily Requirement supplied.
†The need for these substances in human nutrition has not been established.

Indications: 1. Functional fatigue such as that often associated with: a depressing life experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

Contraindications: As with other drugs with CNS stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive compulsive states.

Side effects: Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

Dosage: Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

Merrell

THE WM. S. MERRELL COMPANY
Division of Richardson-Merrell Inc.
Cincinnati, Ohio 45215

6-7907

IRON DEFICIENCY

ANEMIA

Imferon®

(iron dextran injection)

There's as much iron . . . 250 mg. . . . in a 5 cc. ampul of Imferon (iron dextran injection) as in a pint of whole blood. When iron deficient patients are intolerant of oral iron . . . or orally administered iron proves ineffective or impractical . . . or if the patient cannot be relied upon to take oral iron as prescribed, Imferon (iron dextran injection) dependably increases hemoglobin and rapidly replenishes iron reserves. Precise dosage is easily calculated.

LAKESIDE

IN BRIEF: ACTION AND USES: A single dose of Imferon (iron dextran injection) will measurably begin to raise hemoglobin and a complete course of therapy will effectively rebuild iron reserves. The drug is indicated only for specifically-diagnosed cases of iron deficiency anemia and then only when oral administration of iron is ineffective or impractical. Such iron deficiency may include: patients in the last trimester of pregnancy; patients with gastrointestinal disease or those recovering from gastrointestinal surgery; patients with chronic bleeding with continual and extensive iron losses not rapidly replenishable with oral iron; patients intolerant of blood transfusion as a source of iron; infants with hypochromic anemia; patients who cannot be relied upon to take oral iron.

COMPOSITION: Imferon (iron dextran injection) is a well-tolerated solution of iron dextran complex providing an equivalent of 50 mg in each cc. The solution contains 0.9% sodium chloride and has a pH of 5.2-6.0. The 10 cc. vial contains 0.5% phenol as a preservative.

ADMINISTRATION AND DOSAGE: Dosage, based upon body weight and Gm. Hb/100 cc. of blood, ranges from 0.5 cc. in infants to 5.0 cc. in adults, daily, every other day, or weekly. Initial test doses are advisable. The total iron requirement for the individual patient is readily obtainable from the dosage chart in the package insert. Deep intramuscular injection in the upper outer quadrant of the buttock, using a Z-track technique, (with displacement of the skin laterally prior to injection), insures absorption and will help avoid staining of the skin. A 2-inch needle is recommended for the adult of average size.

SIDE EFFECTS: Local and systemic side effects are few. Staining of the skin may occur. Excessive dosage, beyond the calculated need, may cause hemosiderosis. Although allergic or anaphylactoid reactions are not common, occasional severe reactions have been observed, including three fatal reactions which may have been due to Imferon (iron dextran injection). Urticaria, arthralgia, lymphadenopathy, nausea, headache and fever have occasionally been reported.

PRECAUTIONS: If sensitivity to test doses is manifested, the drug should not be given. Imferon (iron dextran injection) must be administered by deep intramuscular injection only. Inject only in the upper outer quadrant of the buttock, not in the arm or other exposed area.

CONTRAINDICATIONS: Imferon (iron dextran injection) is contraindicated in patients sensitive to iron dextran complex. Since its use is intended for the treatment of iron deficiency anemia only it is contraindicated in other anemias.

CARCINOGENICITY POTENTIAL: Using relatively massive doses, Imferon (iron dextran injection) has been shown to produce sarcoma in rats, mice and rabbits and possibly in hamsters, but not in guinea pigs. The risk of carcinogenesis, if any in man, following recommended therapy with Imferon (iron dextran injection) appears to be extremely small.

SUPPLIED: 2 cc ampuls, boxes of 10; 5 cc. ampuls, boxes of 4, 10 cc. multiple dose vials.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

winter 1966

DORSEY Season

A journal within a journal published quarterly in the interests of better medicine by Dorsey Laboratories, a division of The Wander Company, Lincoln, Nebraska. Address communications to Raymond C. Pogge, M.D., Director of Medicine.

this issue: the nose as a shock organ

the nose as a shock organ

by Charles J. Shagoury, M.D., Chelmsford, Massachusetts

"Is it a cold, hay fever, or has he been reprimanded by his boss?" Occasionally, you will ask yourself this question when confronted by a patient with abrupt onset of rhinorrhea, nasal obstruction, and sneezing. Usually the history will elucidate the problem, but examination of the nose will often provide valuable clues to the correct diagnosis.

The nose is a shock organ in a double sense. First, it is in the nose that the confrontation takes place with the surrounding atmosphere. For twenty-four hours a day, the nose must meet the varying challenges of the inspired air, containing perhaps noxious chemicals, dust, dirt, bacteria, viruses, fungi, and industrial pollutants of all kinds, and render it clean, virtually sterile, and fit for the sensitive alveoli of the lungs. Whatever the temperature or humidity of the atmosphere, the nose must transmit it to the lungs at approximately 98°F, and with a humidity of approximately 40%.[1]

Second, in particularly susceptible patients, the nose acts as a shock organ in a manner totally unrelated to its normal function. Persons with hay fever respond to ordinarily harmless materials by extreme nasal congestion, with marked rhinorrhea and violent spasms of sneezing. In some patients, exposure to threatening or disagreeable agents, or situations involving mental conflict may result in a reaction which is exclusively nasal, with swelling of the turbinates, and marked hypersecretion.[2]

Nasal symptoms usually result when the nose seeks to perform its function of getting rid of noxious and dangerous elements in the atmosphere, and prevent their admission to the trachea and lungs. Small particles are removed by the mucous coating which blankets the nasal passages. This mucous blanket contains a bacteriostatic agent, lysozyme, which destroys most air-borne bacteria.[3] The mucinous content renders the surface sticky, causing dusts and small particles to adhere. It has been postulated that this process is rendered more effective through adsorption because of a surface electrical charge on the nasal mucosa.[4] The cilia then sweep the particulate matter to the pharynx. The nose can prevent entrance into the lungs of particles as small as three microns in diameter, but smaller particles elude the nasal barrier. Most bacteria causing respiratory infections are one to three microns in diameter, but since they usually are inhaled in clumps, they are efficiently removed as a rule. Viruses, which are of the order of 1/1000 of this size, are less efficiently dealt with, unless they occur in very large aggregates.[5]

The nose will react in a more or less similar manner, whatever the nature of the offending agent, whether it be an irritant chemical, virus, pollen, or distasteful emotional situation. In acute coryza, the most characteristic sign is a profuse watery discharge. The volume of secretion may rise from practically nothing to nearly 60cc in twenty-four hours.[6] The mucous membrane is reddened and engorged, while the turbinates are markedly swollen. After the first day or two, the secretion becomes thicker, yellowish, and more difficult to expel. The surface cells are largely destroyed, contributing to the copious discharge, which now also contains numerous inflammatory cells which have migrated to the area. Gradually, over a period of a few days, or a week, the flood abates, the swelling and redness subside, and the nasal epithelium resumes a healthy appearance.

Repeated attacks of rhinitis, particularly if there is an underlying element of obstruction, may result in chronic rhinitis. The mucous membrane is constantly swollen and reddened. Sticky, mucopurulent secretions are a continuous feature, and the glandular elements are hypertrophied. Commonly, the mucosal surface takes on an irregular, rounded "mulberry" appearance, and nasal passages are occluded by the swollen turbinates and redundant mucosa.

While all of us are susceptible to colds, the victim of hay fever, or allergic rhinitis, displays a marked nasal reaction to materials in the air which leave his associates unaffected. In such a patient, the nasal mucosa has become an allergic "shock" organ. Contact with the nasal allergen causes local release of histamine, with vasodilatation, increased vascular permeability, and severe nasal congestion, similar to the "wheal" and "flare" reactions in the skin, when the epidermis is the allergic shock organ. While we eagerly await the coming of spring, the hay fever sufferer dreads the blooming season, whose invisible pollens are poisons to his sensitive nose. His neighbor's cat or dog may provoke paroxysms of uncontrollable sneezing. In some cases a specific allergen is not identified, but the triad of rhinorrhea, nasal obstruction, and sneezing is present.[7] The nose in these cases shows a pale, boggy, edematous mucosa, with a thin mucoid secretion. The mucous membrane shows extreme retractility to 1% cocaine or ephedrine. If the patient has medicated himself prior to examination, the nasal passages may appear abnormally patent, or show exaggerated congestion due to rebound reaction. The secretion may show a large number of eosinophils particularly after an attack of sneezing or rhinorrhea. Touching the mucosal surface, especially of the inferior turbinate, leaves an indentation, showing that the swelling is due to stasis and edema, rather than actual hyperplasia of the mucous membrane as in chronic hypertrophic rhinitis. Though the pale swollen mucosa is the hallmark of allergic rhinitis, as usually seen by the physician, exposure of allergic subjects to their known allergens results in a brief hyperemic phase, followed by pallor and edema.[8]

In the later stages of allergic rhinitis, the chronic edema of the mucous membrane results in the formation of polyps, clusters of grape-like masses hanging from the roof of the nose, with a pale glistening surface, contributing significantly to the sense of nasal obstruction and oppression.

A large group of patients show symptoms of nasal congestion when confronted by adverse life situations.[9] In these unfortunate persons, anxiety, frustration, and resentment are often accompanied by a runny nose and nasal obstruction. Lacrimation adds to the nasal stuffiness. This autonomic response, mediated by the parasympathetic nervous system, may be part of a general parasympathetic reaction, or may possibly represent in part, a symbolic effort to wash out and crowd out the offending situation.

Nasal congestion may also occur in some patients at times of sexual stimulation, and in women during menstruation and pregnancy, even to the point of epistaxis.[10] The relationship is obscure; castration results in atrophy of the nasal glands, and their action is inhibited by the hormones of the hypophysis and the thyroid.[11] The nose may be the shock organ in drug therapy. The nose may also bear the brunt of industrial stress, in those who work in a hot dry atmosphere, or those exposed to acid fumes, or irritating dusts. As the air in our cities is increasingly polluted by exhaust fumes, and industrial irritants, whole urban populations may suffer from chronic nasal and respiratory symptoms.

Of course, nasal reactions are not just infectious, or allergic, or emotional. Particularly in the chronic sufferers, there is an interdependence of all three. Death of a relative, or other psychic shock can pre-

(concluded on following page)

it's a comforting thing to know

For postnasal drip, clogged ears and stuffed and runny noses

Triaminic® timed-release tablets

Each timed-release tablet contains:

Phenylpropanolamine hydrochloride	50 mg.
Pheniramine maleate	25 mg.
Pyrilamine maleate	25 mg.

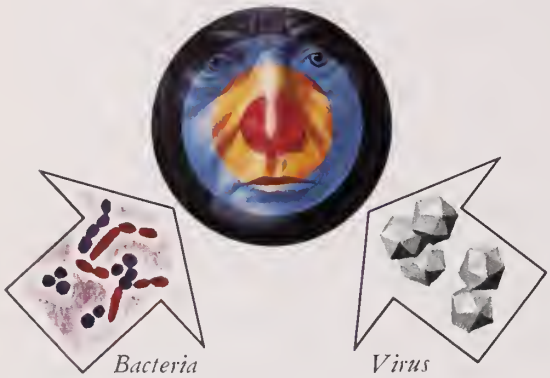
keep patients comfortable 'round the clock. 24-hour decongestion on just a single tablet dosed morning, mid-afternoon and at bedtime. Patients regain senses and can breathe, smell and taste again.

Triaminic. Isn't that a comforting thing to know?

Side effects: Occasional drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets. Precautions: The patient should be advised not to drive a car or operate dangerous machinery if drowsiness occurs. Use with caution in patients with hypertension, heart disease, diabetes or thyrotoxicosis.

(Advertisement)

cipitate an attack of rhinorrhea in hay fever sufferers.[12] Others develop attacks of vasomotor rhinitis following change in temperature, chilling, or exposure to the sun, or simply warm bedclothes.

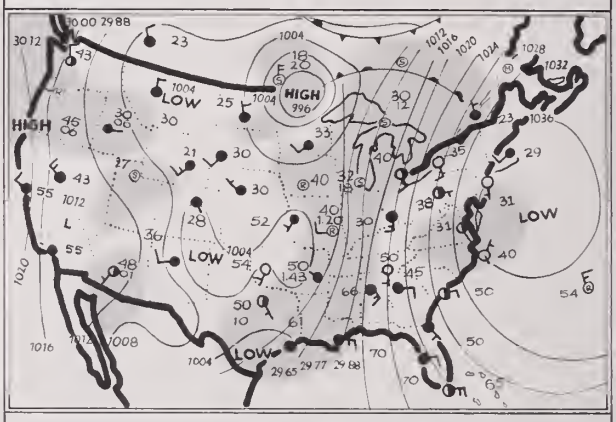


The complex interplay of allergy and infection is largely unclear. Allergy to the viruses and bacteria which cause infection has been postulated, but is difficult to demonstrate. The swollen obstructed allergic nose is more susceptible to infection. At the same time, infection often precedes or precipitates an allergic attack. Exposure of a susceptible patient to an allergen can activate latent virus organisms leading to infection.[13] This "jolt" reaction represents a summation of an allergen and a virus leading to symptoms in the nose as a shock organ, which neither could have produced alone. In childhood, repeated attacks of bronchitis and colds may be inflammatory reactions to an allergen, or precipitated by exposure to an allergen. These children may later develop typical allergic rhinitis. On the other hand, children with typical allergic histories, eczema, asthma, and allergic familial backgrounds, may later develop typical infectious rhinopathies. Skin tests in such patients are usually positive.

Nasal reactions are part of the systemic response of the patient to an unwelcome stimulus. In cases of respiratory infection and exposure to atmospheric irritants, the reactions are useful, and to some extent desirable. They are usually self-limited, disappearing within a few days, or upon removal of the provoking agent. Here the distressing symptoms can be ameliorated with appropriate decongestant agents, or, in the case of severe or complicated respiratory infections,antibiotics may be given, with reasonable confidence of a cure. On the other hand, when nasal reactions are the peculiar response of an individual to an allergen, or to an undesirable situation, they serve no useful purpose. The nose here is a shock organ in a stressful situation, but can furnish no response of value. It merely causes the patient symptoms which add to his problems. In these cases, symptomatic treatment is of great benefit, but often the underlying faulty pattern of response cannot be altered. Such a patient may literally be considered to be paying his way in life "through the nose."

References 1. Maures, E. R., Mendez, F. C., Jr., and Hilsinger, R. C.: Importance of the Nose in Filtering and Humidifying Inspired Air. Ohio State Med. J. 61:41-42. 2. Holmes, T.,Goodell H., Wolf, S., and Wolff, H. G.: The Nose. Springfield, Ill. 1950 Charles C. Thomas p. 10 ff. 3. Boies, L. H. R.: Fundamentals of Otolaryngology. Phila. W. B. Saunders Co. 1954 p. 160. 4. Proetz, A. W.: Applied Physiology of the Nose. St. Louis 1941 Zimmerman-Petty Co. p. 6. 5. Spikard, A.: The Common Cold, A Survey. Disease of the Chest 48:545-49. Nov. 1965. 6. Ibid. 7. Bourdial, J.:Role of Allergy in Upper Respiratory Tract Infection. Europa Med. Paris 4:75-80 1965. 8. Holmes, et al. The Nose p. 22. 9. Ibid. p. 320. 10. Proetz, A. W. op. cit. p. 321. 11. Ibid. p. 320. 12. Rees, Linford J.: Physiogenic and Psychogenic Factors in Vasomotor Rhinitis. J. Psychosomatic Research 8:101 Sept. 1964. 13. Horesh, A. J.: Allergy and Infection. An Allergy 23:621-35 Dec. 1965.

Weather Forecast Throughout the Nation



RAIN TURNING TO SNOW, INCREASING WINDS AND DROPPING TEMPERATURES FOLLOWED BY COUGH, CONGESTION AND PAIN

Tussagesic® provides up to 24-hour coverage of the tough cold with a single timed-release tablet dosed morning, midafternoon and at bedtime. Coughs are broken up, runny and stuffed noses are cleared and pain is relieved.

Each Tussagesic® timed-release tablet contains:

Triaminic® (phenylpropanolamine hydrochloride 25 mg.; pheniramine maleate 12.5 mg.; pyrilamine maleate 12.5 mg.)	50 mg.
Dextromethorphan hydrobromide	30 mg.
Terpin hydrate	180 mg.
Acetaminophen	325 mg.

Side effects: Occasional drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets. Precautions: Patient should not drive a car or operate dangerous machinery if drowsiness occurs. Except under professional care, do not give to patients under 12 yrs. or those who have persistent cough, high fever, heart or thyroid disease, hypertension or diabetes or use for more than 10 days.

(Advertisement)

One 'Ornade' Spansule Capsule works all day (or all night) to make your patient with a cold a lot more comfortable.

'Ornade', the unique oral nasal decongestant with a drying agent, a decongestant and an antihistamine in the ideal dosage form

ALL-DAY OR ALL-NIGHT RELIEF

Ornade® Spansule® Capsules

Trademark brand of sustained release capsules

Each capsule contains 8 mg. of Teldrin® (brand of chlorpheniramine maleate), 50 mg. of phenylpropanolamine hydrochloride, and 2.5 mg. of isopropamide, as the iodide.

The following is a brief precautionary statement. Before prescribing, the physician should be familiar with the complete prescribing information in SK&F literature or *PDR*. *Contraindications:* Patients with glaucoma, prostatic hypertrophy, stenosing peptic ulcer, pyloroduodenal obstruction, or bladder neck obstruction. *Precautions:* Use with caution in the presence of hypertension, hyperthyroidism, or coronary artery disease; and, in patients who may operate vehicles or machinery, warn of possible drowsiness. *Note:* Since the iodine in isopropamide iodide may alter PBI test results and will suppress I^{131} uptake, it is suggested that 'Ornade' be discontinued one week before these tests. *Side effects:* Drowsiness; excessive dryness of nose, throat, or mouth; nervousness; or insomnia may occur rarely, but are usually mild and transitory. Other known possible side effects of the individual ingredients are: nausea, vomiting, diarrhea, rash, dizziness, fatigue, tightness of chest, abdominal pain, irritability, tachycardia, headache, and difficulty in urination.

Smith Kline & French Laboratories

Norinyl® tablets

(norethindrone 2 mg. c̄ mestranol 0.1 mg.)

for multiple contraceptive action that has produced a record of unexcelled effectiveness

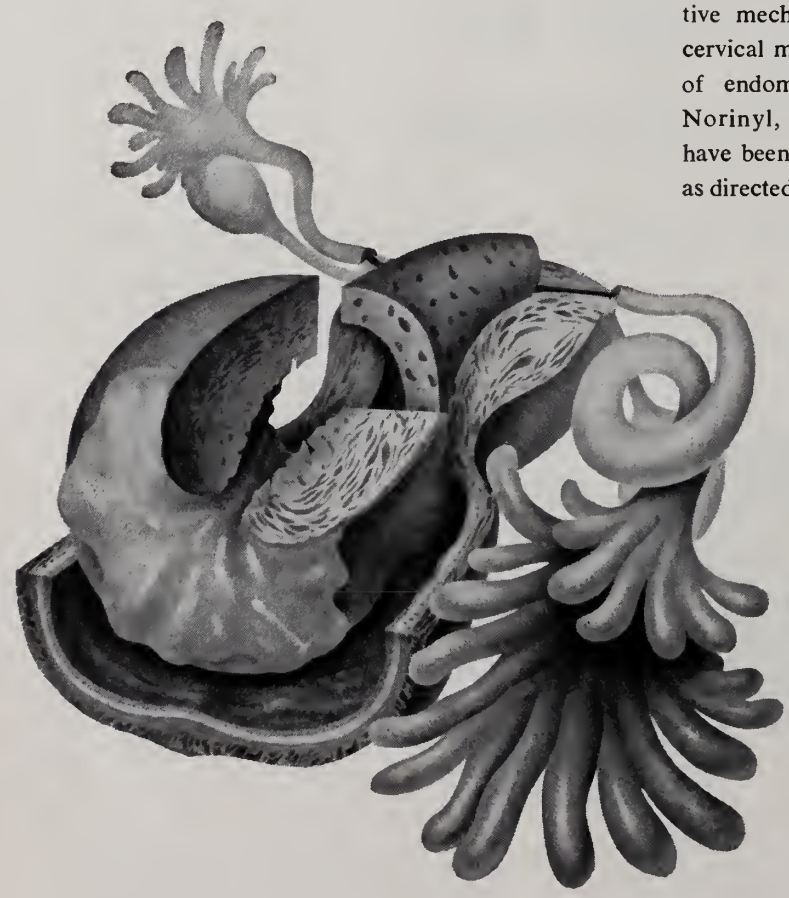
inhibition of ovulation by means of 2 time-proved hormonal agents

production of a cervical mucus hostile to sperm motility and vitality

creation of an endometrium unreceptive to egg implantation

no unplanned pregnancies

Norinyl provides multiple action for maximum assurance of success. It does not depend on ovulation inhibition alone for contraceptive effectiveness. The mechanism of action of combined hormonal therapy results in ovulation inhibition reinforced by other protective mechanisms, including a hostile cervical mucus[1-13] and an acceleration of endometrial changes.[1-3,7-16] With Norinyl, no unplanned pregnancies have been reported to date when used as directed.



plus important supportive benefits that help her through those critical early months of oral contraception

low incidence of side effects
Low incidence of BTB and spotting, nausea and amenorrhea tends to minimize side effect problems and increases patient cooperation.

no confusion about dosage
An unbreakable "confusionproof" package makes it easy to adhere to prescribed dosage schedule: individually sealed tablets numbered from 1 through 20 *plus* monthly calendar record enables patient to double-check dosage intake by day and corresponding tablet number.

Contraindications: Thrombophlebitis or pulmonary embolism (current or past). Existing evidence does not support a causal relationship between use of Norinyl and development of thromboembolism. While a study which was conducted does not resolve definitively the possible etiologic relationship between progestational agents and intravascular clotting, it tends to confirm the findings of the Ad Hoc Advisory Committee appointed by the Food and Drug Administration to review this possibility. Cardiac, renal or hepatic dysfunction. Carcinoma of the breast or genital tract. Patients with a history of psychic depression should be carefully studied and the drug discontinued if depression recurs to marked degree. Patients with a history of cerebral vascular accident.
Warning: Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn.
Precautions: By May 1963, experience with norethindrone 2 mg.—mestranol 0.1 mg. had extended over 24 months. Through miscalculation, omission or error in taking the recommended dosage of Norinyl, pregnancy may result. If regular menses fail to appear and treatment schedule has not been adhered to, or if patient misses two menstrual periods, possibility of pregnancy should be resolved before resuming Norinyl. If pregnancy is established, Norinyl should be discontinued during period of gestation since virilization of the female fetus has been reported with oral use of progestational agents or estrogen. When lactation is desired, withhold Norinyl until nursing needs are established. Existing uterine fibroids may increase in size. In metabolic or endocrine disorders, careful clinical preevaluation is indicated. A few patients without evidence of hyperthyroidism had elevated serum protein-bound iodine levels, which in the light of present knowledge, does not necessarily imply hyperthyroidism. Protein-bound iodine increased following estrogen administration. Bromsulphalein retention has occurred in up to 25% of patients without evidence of hepatic dysfunction. Studies from 24-hour urine collections have shown an increase in aldosterone and 17-ketosteroids and decrease in 17-hydroxycorticoid levels. Thus, Norinyl should be discontinued prior to and during thyroid, liver or adrenal function tests. Because progestational agents may cause fluid retention, conditions such as epilepsy, migraine and asthma require careful observation. Thus far no deleterious effect on pituitary, ovarian or adrenal function has been noted; however, long-range possible effect on these and other organs must await more prolonged observation. Norinyl should be used with caution in patients with bone, renal or any disease involving calcium or phosphorus metabolism.
Side Effects: Intermenstrual bleeding; amenorrhea; symptoms resembling early pregnancy, such as nausea, breast engorgement or enlargement, chloasma and minor degree of fluid retention (if these should occur and patient has not strictly adhered to medication plan, she should be tested for pregnancy); weight gain; subjective complaints such as headache, dizziness, nervousness, irritability; in a few patients libido was increased. In a total of 3,090 patients, 2.2% discontinued medication because of nausea.
NOTE: See sections on contraindications and precautions for possible side effects on other organ systems.
Dosage and Administration: One Norinyl tablet orally for 20 days, commencing on day 5 through and including day 24 of the menstrual cycle. (Day 1 is the first day of menstrual bleeding.)
Availability: Dispensers of 20 and 60 tablets; bottles of 100.

References: 1. Council on Drugs. JAMA 187:664 (Feb. 29) 1964. 2. Bryans, F. E.: Canad Med Ass J 92:287 (Feb. 6) 1965. 3. Goldzieher, J. W.: Med Clin N Amer 48:529 (Mar.) 1964. 4. Cohen, M. R.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965. 5. Hammond, D. O.: Ibid. 6. Rice-Wray, E., Goldzieher, J. W., and Aranda-Rosell, A.: Fertil Steril 14:402 (Jul.-Aug.) 1963. 7. Goldzieher, J. W., Moses, L. E., and Ellis, L. T.: JAMA 180:359 (May 5) 1962 8. Kempers, R. D.: GP 29:88 (Jan.) 1964. 9. Tyler, E. T.: JAMA 187:562 (Feb. 22) 1964. 10. Rudel, H. W., Martinez-Manautou, J., and Maqueo-Topete, M.: Fertil Steril 16:158 (Mar.-Apr.) 1965. 11. Flowers, C. E., Jr.: N Carolina Med J 25:139 (Apr.) 1964. 12. Goldzieher, J. W.: Appl Ther 6:503 (June) 1964. 13. The Control of Fertility. Report adopted by the Committee on Human Reproduction of the American Medical Association. JAMA 194:462 (Oct. 25) 1965. 14. Flowers, C. E., Jr.: JAMA 188:1115 (June 29) 1964. 15. Merritt, R. I.: Appl Ther 6:427 (May) 1964. 16. Newland, D. O.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965.

norethindrone—an original steroid from
SYNTEX
LABORATORIES INC., PALO ALTO, CALIF

Norinyl® tablets
(norethindrone 2 mg c̄ mestranol 0.1 mg)

for multiple contraceptive action

in Transportation or Selecting Health Care Coverage,

DECISION MAKERS NEED FACTS IN DEPTH

The trucks that carry apples and turkeys to New York and the railroads that bring coal from mountain to seacoast are part of a busy and growing Virginia industry: transportation. Virginia's truck terminals, railway and bus depots, airports and seaports are sites of bustling activity as the State becomes increasingly important as a national distribution center. Industry leaders must make decisions that involve many complicated facts to maintain profits and to solidify Virginia's position as a vital transportation hub for the nation.

Facts in depth form the core of any successful business decision. The facts on health care coverage led decision makers in over 5,000 Virginia companies to protect employees against hospital and medical expenses with Blue Cross-Blue Shield. And over the past year, hundreds of these firms have added generous Major Medical coverage to their basic employee program. Major Medical benefits can deliver up to $20,000 in hospital and medical services in the event of serious illness or injury . . . all for just pennies a day per employee!

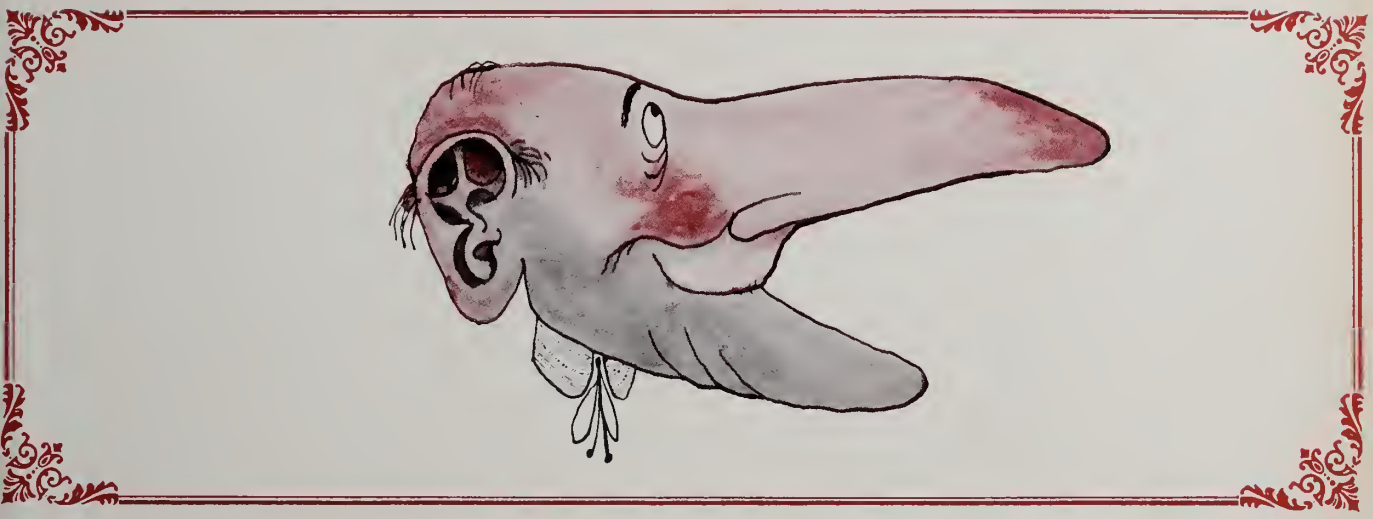
If you're considering an employee health care program, get the facts in depth from an expert. Talk with your local Blue Cross-Blue Shield representative. He works exclusively with health care coverage and will be happy to give you all the facts on a program that is tailored to your own company's requirements. Call him soon.

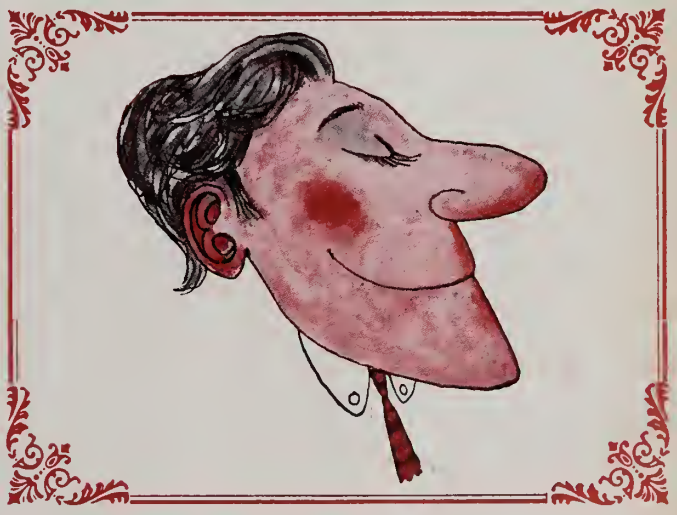
BLUE CROSS BLUE SHIELD
4010 West Broad Street Richmond, Virginia

for noses of every description, one safe and sure prescription:

Otrivin®

(xylometazoline CIBA)
on Rx only





■ quickly relieves congested nose
■ action is gentle, yet prolonged
■ side effects are minimal

INDICATION: Nasal congestion. CONTRAINDICATION: Do not use in patients sensitive to small doses of sympathomimetic substances. WARNINGS: Prolonged or excessive use may cause rebound congestion. Use cautiously in patients with hyperthyroidism, coronary artery disease, hypertension, and diabetes. CAUTION: Do not shake Nasal Spray. Rinse Nasal Solution dropper or Nasal Spray tip in hot water after each use. No more than one person should use the same dropper bottle or nasal spray.
SIDE EFFECTS: Occasional local reactions: rebound congestion, slight burning or stinging, sneezing, dry nose. Occasional systemic effects: headache, drowsiness, lightheadedness, insomnia, palpitations. Overdosage in young children may produce profound sedation. DOSAGE: **Adults:** *Nasal Solution*—2 or 3 drops in each nostril every 4 to 6 hours. *Nasal Spray*—Squeeze rapidly once or twice in each nostril every 4 to 6 hours. **Children under 12:** *Pediatric Nasal Solution*—2 or 3 drops in each nostril every 4 to 6 hours. One drop should be used in infants under 6 months. *Pediatric Nasal Spray*—Squeeze rapidly once in each nostril holding tube upright; repeat every 4 hours as necessary. SUPPLIED: OTRIVIN® hydrochloride (xylometazoline hydrochloride CIBA) *Nasal Solution*, 0.1%; dropper bottles of 1 fluidounce, bottles of 1 pint. *Nasal Spray*, 0.1%; plastic squeeze tubes of 15 ml. *Pediatric Nasal Solution*, 0.05%; dropper bottles of 1 fluidounce. *Pediatric Nasal Spray*, 0.05%; plastic squeeze tubes of 15 ml. *Nasal Solutions* contain either 0.1% or 0.05% xylometazoline hydrochloride, triethanolamine, hydrochloric acid, sodium chloride, and phenylmercuric acetate 1:50,000 as preservative in water. *Nasal Sprays* contain either 0.1% or 0.05% xylometazoline hydrochloride, potassium phosphate monobasic, potassium chloride, sodium phosphate dibasic, sodium chloride, and benzalkonium chloride 1:5000 as preservative in water. *Consult complete literature before prescribing.*
CIBA Pharmaceutical Company, Summit, N. J.

C I B A

2/3329 MKL-1

It's easy
for children
to get bacteria
U.R.I....

and Gantanol (sulfamethoxazole) Suspension is a good way to help them get well

proven effectiveness in common bacterial upper respiratory infections

Clinical results in patients probably much like those you see every day show that an overwhelming majority responded favorably to Gantanol (sulfamethoxazole) Suspension.[1-12] These patients, numbering over 1600 in published reports, had a variety of bacterial upper respiratory infections such as otitis media, sinusitis, pharyngitis and tonsillitis, including over 700 cases caused by beta-hemolytic streptococci.[1-7]

Although in bacteriologically proven streptococcal infections penicillin remains the drug of choice, Gantanol (sulfamethoxazole) has shown conversion rates comparable to those generally seen with penicillin and apparently superior to those cited in the literature for erythromycin and broad-spectrum antibiotics.[1,2] Conversion rates have ranged from a high of 96 per cent in 229 patients[2] to a low of 65 per cent in 105 cases.[3,4] When Gantanol (sulfamethoxazole) Suspension is used in group A beta-hemolytic streptococcal infections, it is important to continue therapy in the recommended dosage for at least 10 days. In addition, Gantanol (sulfamethoxazole) Suspension has demonstrated antibacterial activity against *D. pneumoniae, H. influenzae* and *Staph. aureus*. Thus Gantanol (sulfamethoxazole) Suspension may be considered a practical choice for common bacterial U.R.I., as well as an effective alternative in the penicillin-sensitive patient with proven beta-hemolytic streptococcal infection.

therapy generally uncomplicated by side effects

Such favorable results as those cited in the literature[1-12] are even more meaningful in view of the fact that only 27 of 1961 patients (1.4%) discontinued therapy because of side effects. Of the total side effects reported in 107 patients (5.5%), most were mild and included rash, urticaria, itching, dizziness, headache, diarrhea, nausea and vomiting, shivering sensation, skin discoloration and crystalluria.[1-12]

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Acute and chronic respiratory and urinary tract bacterial infections due to susceptible microorganisms. At present penicillin is considered the drug of choice in acute group A beta-hemolytic streptococcal infections; however, Gantanol (sulfamethoxazole) has shown an effectiveness approaching that of penicillin in a large number of patients. If employed in such infections, *it is important that therapy be continued in the usual recommended dosage for a period of at least 10 days.*

Contraindicated in sulfonamide-sensitive patients, pregnant females at term, premature infants or infants during first 3 months of life.

Warnings: Use only after critical appraisal in patients with liver damage, renal damage, urinary obstruction or blood dyscrasias. If toxic or hypersensitivity reactions or blood dyscrasias occur, discontinue therapy. In intermittent or prolonged therapy, blood counts and liver and kidney function tests should be performed. Data insufficient on prolonged or recurrent therapy in chronic renal diseases of children.

Precautions: Observe usual sulfonamide therapy precautions, including maintenance of an adequate fluid intake. Use with caution in patients with histories of allergies and/or asthma. Patients with impaired renal function should be followed closely since renal impairment may cause excessive drug accumulation. Occasional failures may occur due to resistant microorganisms. Not effective in virus or rickettsial infections.

Adverse Reactions: Following may occur: headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, Stevens-Johnson syndrome, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Dosage: Children—1 teasp./20 lbs initially, followed by ½ teasp./20 lbs b.i.d. *Adults*—4 teasp. initially, followed by 2 teasp. b.i.d. or t.i.d., depending upon severity of infection.

How Supplied: Suspension 10%, 0.5 Gm sulfamethoxazole/5 cc teasp., cherry-flavored, bottles of 16 oz.

References: 1. Braden, B., and Colmore, J. P.: *J. Oklahoma M.A., 57*:7, 1964. 2. Alban, J.: *Am. J. Dis. Child., 109*:304, 1965. 3. Reichelderfer, T. E.: *Clin. Med., 71*:1045, 1964. 4. Jackson, H.; Cooper, J.; Mellinger, W. J., and Olsen, A. R.: *Southwestern Med., 44*:246, 1963. 5. Braden, B.; Colmore, J. P., and Cummings, M. M.: Antimicrobial Agents Annual—1960, p. 54. 6. Peters, J. H.: Data adapted from a Scientific Exhibit presented at the Spring Meeting of the American Academy of Pediatrics, April 26-29, 1965. 7. Peters, J. H.: Antimicrobial Agents and Chemotherapy—1961, p. 406. 8. Elia, J. C.: *Eye Ear Nose & Throat Month., 41*:722, 1962. 9. Patton, J. M.: *West. Med., 5*:46, 1964. 10. Chastain, P. J.: *J. Florida M.A., 48*:816, 1962. 11. Grater, W. C.: *Antibiotics & Chemother., 12*:450, 1962. 12. Exline, A. L.: *Colorado GP, 5*:(5),11, 1963.

Gantanol®
(sulfamethoxazole)
Suspension

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

ROCHE

Blood-glucose screening for all your patients?

...because "Abnormalities of glucose metabolism are among the [most common] encountered in clinical practice...."* Simple, quick, economical blood-glucose screening with DEXTROSTIX® Reagent Strips is practicable in every regular physical examination, emergency situation, and whenever hypo- or hyperglycemia may be of clinical significance—for "The precision and accuracy of DEXTROSTIX ...meet the need for an always available simple screening method...."* All that is required for screening with DEXTROSTIX is 60 seconds and a globular drop of capillary or venous blood. Abnormal readings will be a valuable aid to diagnosis; normals will help you establish an important baseline for future reference.

*Marks, V., and Dawson, A.: Brit. M. J. *1*:293, 1965.

DEXTROSTIX—
provides a clinically useful determination when performed according to directions†

†DEXTROSTIX is not intended to replace the more precise analytical laboratory methods.

Yes—all your patients

AMES COMPANY, INC.
Elkhart, Indiana

AMES

09165

DIURESIS

MERCUHYDRIN®
(meralluride injection)

Twenty years ago the publication of "A System for the Routine Treatment of the Failing Heart"[1] established a schedule of diuretic therapy as a primary factor in the treatment of acute congestive failure. With emphasis upon daily injections of Mercuhydrin (meralluride injection) until dry weight was obtained, Gold, et al. achieved a 40% increase in improvement, in ⅓ the time, over other methods then current. Today, most medical texts continue to recommend parenteral mercurials in acute congestive failure when prompt diuresis is indicated.

Recently Modell[2] has stated: "The mercurial diuretics are the injectable diuretics of choice since they are the most potent as well as the most dependable. Their toxicity is not an important consideration either by comparison with other potent diuretics or in relation to the seriousness of the conditions in which they provide such excellent relief."

LAKESIDE

IN BRIEF

Mercuhydrin is indicated in edema of cardiac or hepatic origin and in the nephrotic syndrome; it is contraindicated in acute nephritis and in anuric or oliguric states. *The usual adult dose is one to two cc. daily or every other day until "dry weight" is obtained.* Sensitivity is rare but small initial doses are advised to minimize potential reactions; vertigo, fever, and rash have occurred. Overdosage may produce electrolyte depletion, muscle cramps, and G. I. reactions. Supplied: 1 cc. and 2 cc. ampuls in boxes of 12, 25 and 100; 10 cc. rubber capped, multiple-dose vials (intramuscular or subcutaneous use only) in boxes of 6 and 100.

1. Gold, Harry, *et al.: A System for the Routine Treatment of the Failing Heart,* The American Journal of Medicine, Vol. III, No. 6:665-692 (Dec.) 1956.
2. Modell, Walter: *Drugs of Choice 1966-1967,* p. 97, 1966.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

TABLETS

Equagesic®

(meprobamate and ethoheptazine citrate with aspirin)

Wyeth®

Precautions: Keep out of reach of children. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use of meprobamate may result in dependence or habituation in susceptible persons—as ex-addicts, alcoholics, severe psychoneurotics. Withdraw gradually after prolonged high dosage to avoid possibly severe withdrawal reactions including epileptiform seizures. Warn patients of possible reduced alcohol tolerance. If drowsiness, ataxia or visual disturbances occur, reduce dose. If symptoms persist, caution patients against operating machinery or driving. Give cautiously to patients with suicidal tendencies. Treat attempted suicide with immediate gastric lavage and appropriate supportive therapy

Side Effects: Ethoheptazine and aspirin may occasionally cause nausea, vomiting, epigastric distress, and rarely dizziness and CNS depression. Overdosage may result in salicylate intoxication. Meprobamate rarely causes allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. Meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioedema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. A few cases of leukopenia, usually transient, have been reported following prolonged dosage. Rarely, cases of aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia have been reported; almost always, in the presence of known toxic agents.

Contraindications: History of sensitivity or severe intolerance to aspirin or meprobamate.

Composition: 150 mg. meprobamate, 75 mg. ethoheptazine citrate and 250 mg. aspirin per tablet.

Wyeth Laboratories Philadelphia, Pa.

Weighing on his mind, too

When pain evokes anxiety and tension, thereby heightening patient discomfort, a simple analgesic may only touch on part of the problem.

This single-prescription, nonnarcotic product, however, usually provides effective analgesia *and* helps put the patient's mind at ease.

ECONOMICAL!

cream and ointment

Additional information available to physicians upon request.
Eli Lilly and Company, Indianapolis, Indiana 46206.
600811

The Virginia
MEDICAL MONTHLY

February, 1967
Vol. 94, No. 2
Whole No. 1377

Guest Editorial . . . .

No Sin, Readability

WE HAVE ALL HAD TO STRUGGLE our way through legal documents and to read the writing while cursing the writer. "Why," we have mused, "can't lawyers write English?"

Indeed many attorneys have realized that legal language is often artificial and needlessly encumbered by tradition, and may even hinder accurate interpretation. Some of them are making an honest effort to avoid their stereotyped diction, the time-worn capsule phrases, the intricate dependent clauses, and the paragraph-long sentences.

Some of us have likewise championed a much-needed revision in medical literature. After reasonably normal lives, many of us on being stamped "M.D." start down the long dark path to virtual illiteracy. What little literary contact we have is limited too often to professional journals and books. Here we necessarily deal in technical terms. But that doesn't excuse our turning good common words into ponderous polysyllabic synonyms. Worse yet, why must we entangle our best thoughts and becloud vital facts in verbosity?

Even if we don't get much chance to read the daily newspaper, the medical newspapers which regularly come our way should give us some insight into lucid communication, thus balancing the effects of unwatchful journal editors.

Of course some of this verbosity comes from our reluctance to make absolute statements. Telling a patient "You ought to be feeling much better next week this time" gives us an out in case he isn't, even though *he* hears it "You'll be well in a week." This cautious bent may explain why, when I started practice, I received a note from a colleague stating "I believe I can offer you best wishes . . ." (I wish he had.)

The wordiness I am talking about is well-exemplified in the following quotation from a medical journal of a few years back:

"There were 10,874 patients delivered in the Hospital

in 1956-1958. A correlation of the 46 patients who were aborted for therapeutic reasons to the total number of deliveries disclosed an incidence ratio of 1:236."

Does this lose anything when translated:

"At Hospital in 1956-58 there were 46 therapeutic abortions and 10,874 deliveries (ratio—1:236)"?

Journal authors and editors are not alone in their sins. In our own hospital charts we are just as chatty. Perhaps if we had to write more and dictate less we would learn better that brevity is the soul of wit. To quote from a recent journal case report:

"A diagnosis of acute pelvic and general peritonitis secondary to a pyometra or pelvic inflammatory disease was entertained. The patient was treated with 30 million units of intravenous penicillin per 24 hours and intramuscular streptomycin 0.5 gm. twice daily for approximately 36 hours without clinical improvement. Approximately 36 hours following admission, the patient underwent an exploratory laparotomy."

Why not say:

"We thought she might have an acute pelvic and general peritonitis secondary to a pyometra or pelvic inflammatory disease. We treated her with 30 million units of penicillin per 24 hours I.V. and streptomycin 0.5 gm. twice daily I.M. Since there was no clinical improvement after about 36 hours, we did an exploratory laparotomy"?

My plea is simply this:

(1) If you have something to say, say it.
(2) If you want your writings read, write readably.
(3) Write English, not medicalese.

It is no sin to put your thoughts in simple terms and flowing phrases. And with today's proliferation of publications, it is the duty of everyone who dares add to it to do so briefly and clearly.

T. Stacy Lloyd, Jr., M.D.

1200 Prince Edward Street
Fredericksburg, Virginia

The Etiology and Treatment of Esophagitis with or without Demonstrable Hiatal Hernia

Manometric Studies of Sphincter Area Before and After Surgery.

R. N. deNIORD, M.D.
STUART H. HARRIS, JR., M.D.
Lynchburg, Virginia

Esophagitis may be treated surgically whether or not associated with hiatal hernia.

THE FREQUENTLY BIZARRE MANIFESTATIONS of esophagitis prevent early diagnosis and treatment. Some patients have existed in a limbo of discomfort for years before specific diagnostic light is shed on the correct etiology. Esophagitis may indeed manifest itself in a dissidence of complaints. Symptoms of bilateral arm pain unrelated to cardiac angina, the frequent complaints of fullness or difficulty swallowing, substernal pain occasioned by stooping or bending, and almost always the story of multiple acid eructations with temporary relief (parosis) should make the physician consider the anathema of esophagitis.

This paper deals with the subject of demonstrable hiatal hernia with reflux esophagitis and its surgical correction in 104 cases. It also deals with esophagitis secondary to gastric reflux, but without radiographical evidence of herniation (22 cases). Manometric studies were performed on a number of these patients to demonstrate the presence or absence of normal sphincter pressures with a high correlation of findings between the absence of correct sphincter tone and the presence of esophagitis. Friesen performed manometric studies and postulated on the experimental necessity of the esophageal sphincter some years ago,[1] and Tuttle performed a similar study detecting reflux by the simultaneous measurement of intraluminal pressure and pH in 1958.[2]

The finding of esophagitis with reflux depends primarily upon the correlation between symptoms and direct observations through the esophagoscope. pH determinations of the lower esophagus as well as manometric studies are also helpful in the correlation and, of course, the barium swallow demonstration of hiatal hernia is further proof. There are some patients in whom herniation is difficult to demonstrate radiographically, and we feel that patients with definite esophagitis, abnormal sphincter tone shown manometrically, and continued symptoms despite an adequate medical antacid program, are candidates for repair of the cardioesophageal junction. Our indications for surgery, the technique used and the results follow.

Incidence

Demonstrable hiatal hernias are found in 10% of patients without symptoms in a large upper gastro-intestinal series reviewed by Brick and Amery.[3] Herniation discovery on gastro-intestinal x-ray increased to 15 to 30 percent in symptomatic patients. Many institutions have found the incidence of diagnosis of hiatal hernia increases in parallel with increasing staff interest. In some clinics, the frequency of herniation approaches and exceeds the incidence of peptic ulcer and gallbladder disease.[4] The often erroneous concept of a low incidence of

hiatal hernia demonstration at the time of postmortem examination relates to a lack of careful examination prior to evisceration. In addition to this, many pathologists describe mucosal changes in the lower esophagus as agonal in nature rather than secondary to premortem conditions.

The sliding hiatal hernia is more common in females than males with the percentage of 58.3 for women and 48.7 for men in a review of 1,223 cases by Sealy.[5] The age of discovery of symptomatic hernias ranges in various series from 40 to 60

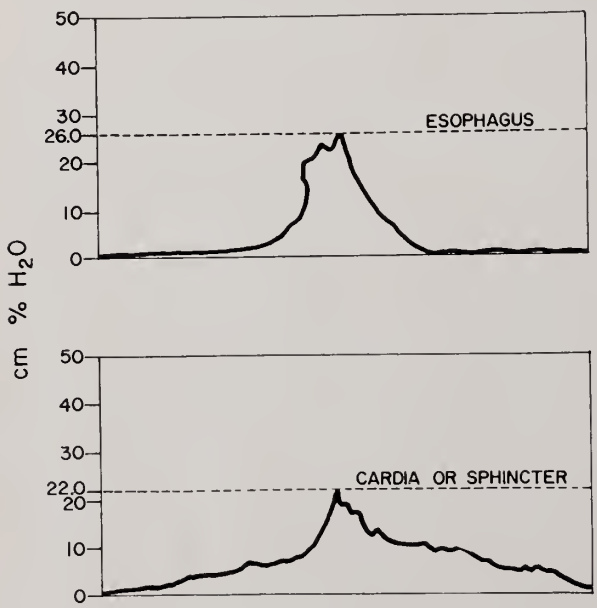


Fig. A. Preoperative manometric studies of esophageal vault and sphincter area in patients with hiatal hernias and esophagitis.

These studies indicate a marked lowering of pressures at the cardia or sphincter (to 22.5 cm. of water) during deglutition or abdominal compression. Normal values should rise to 35 cm. The absence of an effective sphincter "abutment" allows gastric reflux of acid into the esophageal vault.

years. Since hernias occurring in conjunction with pregnancy are often symptomatic in the later trimester, this would seem to falsely reduce the age level. Hernias of this type respond exceptionally well to medical management and especially after delivery. Recently, Heinburger in this country[6] and Aylwin in Great Britain[7,8] have described esophagitis in children secondary to hiatal hernias. In our own series of 104 cases, the average age was 52 years in patients with demonstrable hiatal hernias and 31 years in those patients without hernia but with reflux esophagitis.

It is of interest in our series that the average patient had a treatment schedule lasting 1.3 years prior to definitive surgery, and that in all cases treatment failure by medical management was thought to be present.

Manometric Studies and Clinical Application

A—Method—

Following esophagoscopy under local anesthesia and in the sitting position, an esophageal tube was passed with a pressure cuff

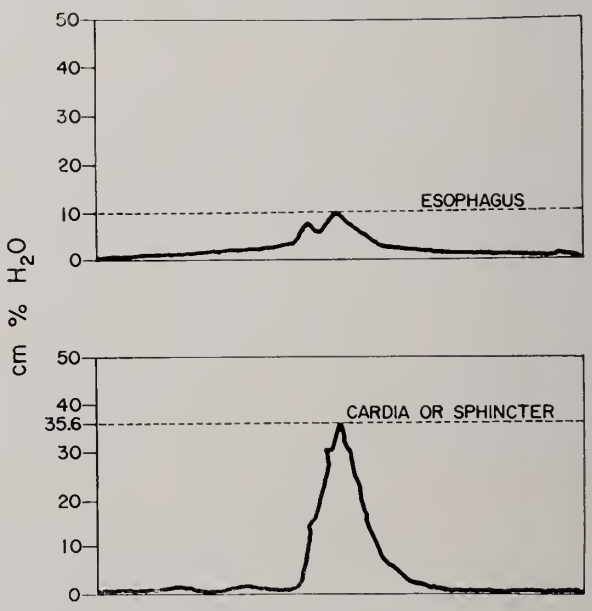


Fig. B. Postoperative manometric pressure determinations of the esophageal vault and sphincter area (i.e. after repair of hiatal hernia). These studies indicate a return to normal pressures at the sphincter level. Accordingly, during deglutition or increase in abdominal pressure, the cardia "closes" effectively thereby preventing gastric reflux.

connected to a water manometer. Resting pressures were taken at the lower esophageal vault and then in the sphincter or cardioesophageal area. The patient was then instructed to swallow, and pressures were again obtained in these areas. A third set of

pressures were obtained by pressing on the patient's epigastric area.

B—Results—

Manometric studies of the esophageal sphincter have been carried out extensively by Allison, Atkinson, Lind and others.[9,10,11] In our series, 15 patients with demonstrable hiatal hernia and esophagitis and five patients without radiologically demonstrated hernia but with esophagitis were subjected to manometric pressure studies of the lower esophagus and sphincter areas. It was found that the mean pressures in the stomach and lower esophagus of normal individuals were 12.1 and 1.5 cm. of water respectively. The normal maximum pressure in the sphincter area during deglutition rises sharply under normal conditions to 35.6 cm. of water, but in patients with hiatal hernias the maximum pressure is reduced during deglutition to 22.5 cm. of water (See Figs. A & B). Indications here are that there is an inability to prevent gastric reflux by decrease in the quality of the sphincter compression mechanism. In such sphincter malfunction, a jet of gastric secretion irrigates the lower esophagus during swallowing or with increased intra-abdominal pressure, prone position, stooping or bending. There is, in effect, an absence of an effective abutment or sphincter to prevent reflux.[12] In 1957 Atkinson,[13] and later in 1965[14] Lind found manometric pressure patterns suggesting an independent motor mechanism in the vestibule and essentially confirmed the absence of an effective sphincter in the presence of a hiatal hernia.

Further evidence of inadequate sphincter control has been collected by Cross, Kay and Johnson.[15] These investigators nicely demonstrated the neuromuscular imbalance of the esophagus associated with hiatal hernias in a study using intraluminal pressure recordings and cinefluorography.

Physiologists are aware of the alkaline requirement of the esophagus, the mucoid secretions, and the necessity for maintenance of the elevated pH. When pH lowering to acid levels occurs in the distal esophagus, the mucosal changes are readily apparent to the esophagoscopist visually and to the patient symptomatically.[8] We are impressed by the weight of experimental and clinical evidence which supports this thesis.

Esophagitis Without Hiatal Hernia

Moersch[16] has demonstrated the pathological changes occurring in severe reflux esophagitis and indicates the irreversibility of such conditions by purely conservative methods. It would seem, therefore, that after intensive therapy for esophagitis without symptomatic relief or with rapidly recurring episodes, consideration should be given for surgical repair of the cardioesophageal junction. The presence of esophagitis as demonstrated through the esophagoscope, but without radiographical demonstration of a hiatal hernia, causes considerable dismay since it is felt that surgery in these conditions is not indicated. On the contrary, we have felt that whereas this is a relatively unusual situation in an overall series of patients, there is a distinct group who either do not have herniation demonstrated or who, indeed, have reflux esophagitis without apparent herniation, but with obvious absence of sphincter control.

We feel that once other causations of esophagitis have been ruled out (i.e., Collagen disorders, etc.) that careful consideration should be given to the diagnosis of reflux. This diagnosis is established by esophagoscopy and manometric evaluation of the sphincter area. If obvious esophagitis exists plus an incompetent sphincter, then gastric reflux can be blamed on the etiological factor. If progression of this disorder now occurs despite stringent antacid and dietary management, we urge consideration of a surgical repair of the cardioesophageal junction. In our experience, esophagitis unassociated with demonstrable hiatal hernia is best managed from below with vagotomy,

pyloroplasty and repair of crural defect (if it exists) since gastric acidity in these patients is so frequently high. While it is conceivable that a transthoracic repair would accomplish control of reflux in this situation, we have not been willing to rely on that alone and feel the addition of pyloroplasty and vagotomy to reduce acidity provides more complete assurance of success.

The Diagnosis and Management of Esophagitis

The asyptomatic hiatal hernia is an anatomical abnormality and does not warrant consideration for repair. Approximately three-fourths of all patients with demonstrable hiatal hernias are either symptomatic or respond promptly to medical management. The remaining one-fourth are those patients seen by physicians who are uncontrolled by diligent antacid regimens and in whom surgery should be considered. It becomes impractical to pursue a course of medical control when this has failed or where patients are developing complications indicative of irreversibility.

The repair of hiatal hernias in our series is, therefore, based on the concept of physiological as well as anatomical improvement at the cardioesophageal junction. Repair should employ the following considerations:

1) Reduction of the hernia with replacement of the stomach to the normal infradiaphragmatic position.

2) Repair of the hiatal defect to decrease its size.

3) Esophagogastropexy to restore a normal cardioesophageal angle. This simple maneuver is thought by some to be the most important step of the operative procedure.

4) Consideration (in a small group of patients) of vagotomy and pyloroplasty where extremely high gastric pH is present without significant evidence of a hiatal hernia but with obvious gastric reflux and esophagitis.

In view of the rewarding results and significant absence of morbidity or mortality[17,18] we feel that surgery should be offered to the patient before he becomes chronically debilitated with his condition.

The indications for repair of the hiatal hernia or re-establishment of the correct balance at the cardioesophageal junction in this series were restricted to the following:

1) Recurrent bleeding from esophagitis, either overt or occult (24 patients).

2) Recurrent or progressive symptoms of esophagitis in any of its varied forms despite conventional and diligent antacid control (82 patients).

3) Weight loss secondary to progressive dysphagia for uncontrollable esophagitis and/or stricture (eight patients).

4) Chronic bronchitis secondary to regurgitation and aspiration (a little recognized but fairly frequent complication of symptomatic hiatal hernia) (12 patients).

5) Cardiospasm with increasingly recurrent episodes of hangup of solid food particles, causing embarrassment and discomfort (17 patients).

The several surgical approaches that can be employed have been argued pro and con during the past few years. We feel that the transthoracic approach offers a better visualization of the hernia defect, better approximation of the crura, and a more easily performed esophagogastropexy. However, there are certainly patients in whom the abdominal approach is indicated, especially where multiple organ pathology is suspected and/or where an abdominal exploration seems indicated. The so-called "Saints triad" consisting of hiatal hernia, diverticula and gallstones,[19] for instance, offers a solid indication for a repair through the abdominal approach. Also, where patients have reflux esophagitis without demonstration of a hernia, but with high gastric acidity and manometric evidence of an incompetent sphincter, an abdominal approach should be used since vagotomy and pyloroplasty are indicated as well as hernia repair.[20,21] Our

methods of repair (both abdominally and transthoracically) are patterned after the Allison technique[11] and are demonstrated in the accompanying drawings.

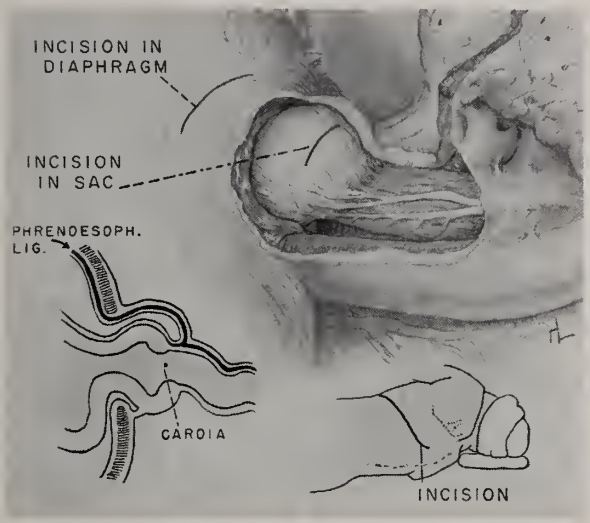


Diagram I—Demonstration of incision and opening of posterior pleura to demonstrate the hiatal crural defect.

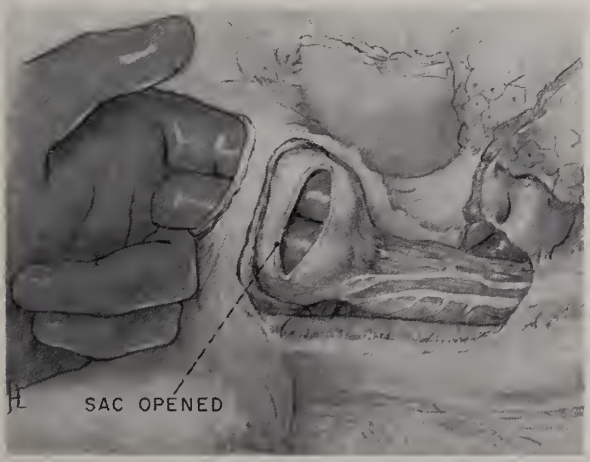


Diagram II—Demonstration of opening in diaphragm with fingers inserted and hernial sac (phrenoesophageal ligament) opened.

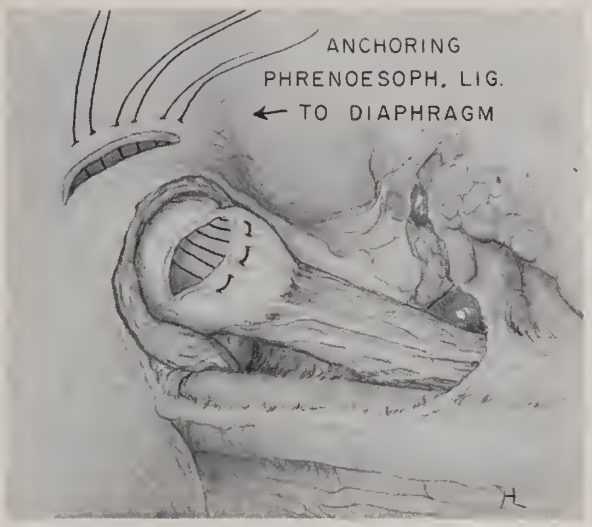


Diagram III—Demonstration of sutures through the upper margin of the sac (phrenoesophageal ligament) and brought out under and through the diaphragm in order to prevent recurrence.

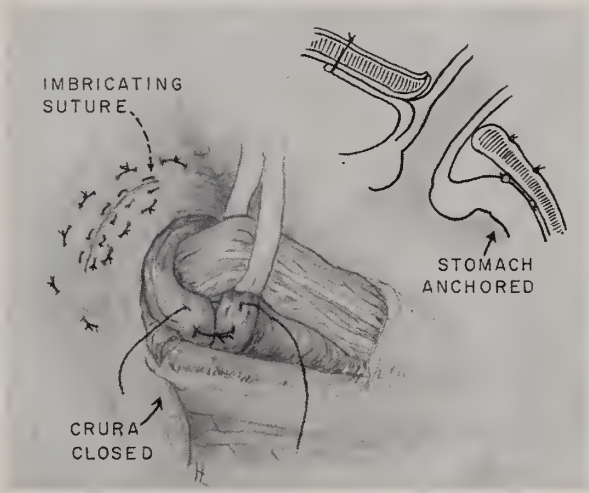


Diagram IV—Demonstration of crural defect closure posteriorly by tape elevation of the lower esophagus and clearing the crural fibers until distinct definition of the muscular pillars is obtained.

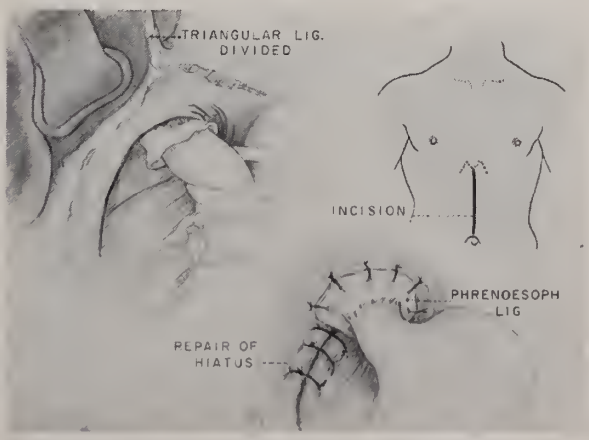


Diagram V—Demonstration of abdominal approach and method of repair.

Summary and Conclusion

Esophagitis, when not associated with a primary medical disorder, is the result of an imbalance at the cardioesophageal junction. The most frequent cause of this imbalance is the sliding esophageal hiatal hernia which can usually be demonstrated radiographically. Confirmation of esophagitis is performed by distal esophageal pH studies, manometric studies of the sphincter area, and esophagoscopy demonstrating the inflammatory reaction of the lower third of the esophageal wall.

Esophagitis without demonstrable hiatal hernia causes consternation since there is no obvious mechanical defect which can be demonstrated on x-ray. By no means all, but some of these patients also have a cardioesophageal imbalance and have been shown, in our series as well as other studies, to have significant sphincter abnormalities as demonstrated by manometric studies of the sphincter area as well as the esophageal vault. These studies objectively demonstrate the absence of correct sphincter tone during deglutition and during any increase in abdominal pressure. This accounts for the reflux of gastric secretions, the lowering of esophageal pH, and the secondary esophagitis. Whereas the herniation demonstration is comforting to the clinician, our backs should not be turned on the patient without demonstrable hiatal hernia but with persistent esophagitis.

Such patients are treated diligently with dietary and antacid management. However, where symptoms of esophagitis are unremitting, we urge repair of the cardioesophageal junction and suggest pyloroplasty and vagotomy as well. Our experience with 22 patients is described.

The uncomplicated and well demonstrated hiatal hernia with esophagitis should, we believe, be repaired transthoracically, if and when medical management has failed and the time for surgery has arrived. Our own experience with 104 cases over a seven year period is described.

The results of manometric studies, the technique of surgical repair, and our indications for surgery are shown.

104 Cases of Hiatal Hernia with Esophagitis

Average age—	52 Years
Sex—	Female—Ratio 3 to 1
Predominant complaint—	
Acid eructation (heartburn)	81
Cardiospasm	22
Bleeding—(overt)	8
(occult)	12
Stricture	4
Mortality following repair—	4 (30%)
Complications following surgery—	
Rupture of diaphragmatic opening with herniation of stomach into thorax— (diaphragm not closed with imbricated suture)	1
Recurrent herniation—	5
Morbidity—by far the single largest complaint is intercostal neuralgia following transthoracic approach.	
Method of Surgical Repair—	
Transthoracic repair	92
Abdominal approach	12
Treatment time prior to surgery—	1.3 years

22 Cases of Esophagitis without Hiatal Hernia Demonstration but with Cardioesophageal Imbalance

Average—	31
Sex—	All female
Predominant Complaint—	
Substernal pain with acid eructation	
Mortality following surgery—	0
Complication following surgery—	
Atonic bowel symptoms following vagotomy	3
Method of Surgical repair—	
Transthoracic repair	15
Abdominal approach with vagotomy and pyloroplasty as well as repair of cardioesophageal angle and closure of hiatal opening—	7
Treatment time prior to surgery—	6 months

References

1. Friesen, S. R., and Miller, D. R.: Competence of the Esophagogastric Sphincter in Hiatal Hernia: Some Experimental Observations. Am. Surgeon 22:42-55, 1956.
2. Tuttle, S. F., and Grossman, M. I.: Detection of Gastroesophageal Reflux by Simultaneous Measurement of Intraluminal Pressure and pH. Proc. Soc. Exper. Biol. & Med. 98: 225, 1958.
3. Brick, I. B., and Amory, H. I.: Incidence of Hiatus Hernia in Patients Without Symptoms. Arch. Surg. 60; 1045-1050, 1950.

4. Postlethwait, Raymond W. and Sealy, Will Camp: Surgery of the Esophagus, Page 156.
5. Postlethwait, Raymond W., and Sealy, Will Camp: Surgery of the Esophagus, Page 157.
6. Heimburger, Irvin L., Alford, William C., Jr., Wooler, Geoffrey H., and Aylwin, John A.: Hiatal Hernia and Reflux Esophagitis in Children. J. Thoracic and Cardiovascular Surg. 50: No. 4, Oct. 1965, 463-470.
7. Aylwin, J. A.: The Physiological Basis of Reflux Esophagitis in Sliding Hiatal Diaphragmatic Hernia. Thorax 8: 38, 1953.
8. Aylwin, J. A.: The Surgical Anatomy of Competence at the Cardia and Its Restoration in Diaphragmatic Hiatus Hernia. Encyclopedia of British Surgical Practice. Progress Volume, 1957.
9. Allison, P. R.: Peptic Ulcer of Oesophagus. Thorax 3: 20-42, 1948.
10. Allison, P. R.: Peptic Ulcer of Esophagus. J. Thoracic Surg. 15: 308-317, 1946.
11. Allison, P. R.: Reflux Esophagitis, Sliding Hiatal Hernia, and Anatomy of Repair. Surg. Gynec. & Obst. 92: 419-431, 1951.
12. Piccone, M.D., Gutelius, J. R., McCorriston, J. R.: A Multiphased Esophageal pH Test for Gastroesophageal Reflux. Surgery 57: No. 5, pg. 638, May 1965.
13. Atkinson, M., et al: Oesophagogastric Sphincter in Hiatus Hernia. Lancet 2. 1138, 1957.
14. Lind, J. F., Burns, C. M., and MacDougall, J. T.: Physiological Repair for Hiatus Hernia—Manometric Study. Arch. Surg. 91: pg. 233, August 1965.
15. Cross, F. S., Kay, E. B., and Johnson, G. F.: Neuromuscular Imbalance of the Esophagus Associated with Hiatal Hernia as Studies by Means of Cinefluorography and Intraluminal Pressure Recordings. J. Thoracic Surg. 34: 736-748, 1957.
16. Moersch, R. N., Ellis, F. H., Jr. and McDonald, J. R.: Pathologic Changes Occurring in Severe Reflux Esophagitis. Surg. Gynec. & Obstet. 108: 476-484, 1959.
17. Myre, T. T., Kirklin, J. W., Andersen, H. A., and Clagett, O. T.: Surgical Considerations in Treatment of Esophageal Hiatal Hernia. J. A. M. A. 164: 147-150, 1957.
18. Sweet, R. H.: Esophageal Hiatus Hernia of the Diaphragm. Ann. Surg. 135: 1-13, 1952.
19. Muller, C. J. B.: Hiatus Hernia, Diverticula and Gallstones—Saint's Triad. South African M. J. 22: 376-382, 1948.
20. Harrington, S. W.: Esophageal Hiatus Diaphragmatic Hernia. Rocky Mountain M. J. 49: 665-673, 1952.
21 Harrington, S. W., in discussion on Humphries, G. H., II, Ferrer, J. M., Jr., and Wiedel, P. D.: Esophageal Hiatus Hernia of the Diaphragm; an Analysis of Surgical Results. J. Thoracic Surg. 34: 749-778, 1957.

1911 Thomson Drive
Lynchburg, Virginia

Tooth Replanted

If Johnny knocks out a tooth while racing his skateboard or playing in a neighborhood playground, the loss isn't necessarily permanent if he saves it. Perhaps it can be replanted.

Dr. Hugo A. Owens, a Portsmouth, Va., dentist, reports that a boy whom he treated in 1955 by replacing a completely severed tooth has good, normal dental health. The 13-year-old boy was playing in a school yard when he was struck in the mouth and the upper left central incisor was knocked completely out. His teacher salvaged the tooth and rushed him to the dentist's office for emergency treatment.

Since there was no fracture of the bone nor damage to any other tooth, Dr. Owens decided to attempt simple replantation without splinting. Five days later the boy said he felt well in every respect. When he returned for x-rays 11 days after the accident, no abnormal changes could be seen and the tooth was remarkably tight in the socket. After a month the tissue surrounding the tooth was normal and healthy, the tooth was well anchored and all soreness had disappeared.

"A review of the literature confirms the practicality of replantation and, with current techniques and new drugs, those teeth which once might have been considered hopeless are now routinely treated and saved."—*J. National Med. Assn.*, May, p. 170. (Reprinted from Schering Science Bulletin)

Intermediate Polycythemia

The Benign Polycythemia of Gaisbock

JOHN E. STEVENS, M.D.
OLIVER H. CHABOT
Richmond, Virginia

Intermediate polycythemia is distinct from polycythemia vera and relative polycythemia. This interesting condition is discussed and a group of patients described.

POLYCYTHEMIA refers to an absolute or relative increase in the number of circulating erythrocytes. This may be either primary or secondary in nature.

It may be secondarily associated with a variety of conditions in contrast to primary polycythemia (Erythemia or Polycythemia Vera). The latter was originally described in European literature in 1892 by Vaquez. Osler popularized it as a new clinical entity in 1903.[18] He noted "there are two classes, relative, in which the condition is due to a diminution in the quantity of the plasma of the blood and true, in which there is an actual increase in the number of blood corpuscles", i.e. increased red cell volume.

Measurement of the total red cell volume by isotopic labeling, or other valid measures of red cell mass, provides the final proof for a diagnosis of polycythemia.[17] It may be suggested in the peripheral blood by an increase in circulating erythrocytes or an elevated hematocrit. Differentiation of the secondary cause for polycythemia is, primarily, clinical. The findings of cardiac or pulmonary disease and the absence of splenomegaly favor secondary polycythemia. The arterial oxygen saturation is probably the only test capable of differentiating between primary polycythemia and that polycythemia secondary to chronic pulmonary disease. In general, it may be said that a low oxygen saturation excludes the diagnosis of primary polycythemia vera.[12] Changes in the peripheral blood found in two-thirds of cases of polycythemia vera, but, usually absent in secondary polycythemia, are a granulocytic leukocytosis with a "shift to the left", a thrombocytosis and an erythrocytosis with regenerative features.

The following modified outline from Wasserman and Bassen[20] classifies the various types of polycythemia:

Polycythemia Absolute — increased red cell volume; increased total blood volume; decreased or normal plasma volume

1. Primary or Polycythemia Vera
2. Secondary Polycythemia to
   a. Anoxia (ex. pulmonary insufficiency; venous arterial shunts)
   b. Tumors (particularly renal and intracranial lesions)
   c. Cobalt (in animals)
   d. Hormonal factors (androgen-like substances)
   e. Humoral factors (erythropoietin from kidneys)
   f. Neurogenic factors (debated)

Relative Polycythemia — normal red cell volume; decreased plasma volume

1. Secondary to fluid (plasma) loss
2. "Stress" or pseudo-polycythemia

Presented at the meeting of the Virginia Society of Hematology, April 23, 1966.

To this classification we would add:

Intermediate Polycythemia (Gaisbock's Syndrome)	increased or normal red cell volume normal or decreased plasma volume normal or decreased total blood volume

Recent interest has been shown in Gaisbock's syndrome, indicating that it is not a coincidence of true polycythemia vera and hypertension[8,9] but is a polycythemia with*out* splenomegaly, the benign nature of which is established by long follow-up in some cases. Russell and Conley[19] report it as the most common type of polycythemia encountered at the Johns Hopkins Hospital —apart from dehydration and the erythrocytosis associated with arterial oxygen unsaturation. These patients are characterized as middle-aged males of obese or stocky habitus who are usually tense cigarette smokers and prone to have hypertension or vascular disease. The absence of splenomegaly and increase in all formed elements of the blood separate them from polycythemia vera, although the red cell and total blood volumes may, at times, be suggestive.

These characteristics that in one person present features of a relative polycythemia and, in another, an absolute polycythemia, are believed to be the benign consequence of a distinct constitutional type. Hall[13] also notes the disease is neither true nor secondary polycythemia, but is actually something clearly different. He, too, calls attention to the fact that some have pseudopolycythemia with normal total red cell volume and low total plasma volume while others show increased red cell volume.

The similarity of these reports with a selected group of twelve patients seen in private practice is thought noteworthy. It is felt that others, confronted with a problem of apparent polycythemia, would benefit from a clinical review of these and other benign polycythemias considered in a differential diagnosis. This is not presented as an exhaustive review but rather as a background for discussion of these polycythemias.

A. *Relative Polycythemia*

Osler,[18] in 1903, called polycythemia "relative" when it was due to a diminution in the quantity of plasma of the blood. He reported that it was common and of long duration and, most often, caused by loss of fluids, either by diarrhea, sweating, increased diuresis, or loss of liquids by secretion or transudation.

Another mechanism, other than reduction in plasma volume, causing a high venous hematocrit without true polycythemia has been suggested. This is an alteration in red cell distribution in different organs.[3] Hematocrits may vary from 15% in small vessels to 82% in the spleen. The skin, as a vascular organ, is capable of wide fluctuations in its blood supply. It may merit further investigation as a shift in red blood cells that appears as polycythemia.

In 1952, Lawrence and Berlin[16] reported for the first time 17 cases of relative polycythemia for which the possible etiological effect of nervous stress was proposed. These patients were called "stress polycythemias". They were, primarily 40-50 year old males, overweight, with a ruddy cyanosis who complained of dizziness. There was a normal total red cell volume but an abnormally low plasma volume, leading to an apparent elevation of the red cell count, hemoglobin or hematocrit.

If we accept the fact that 6% of men and women will have hematocrits above 52% and 48% respectively, there remains that group, whose hematocrits vary between 52-57%, to carefully evaluate. Many of these have been termed idiopathic (stress) polycythemia.[10]

B. *Intermediate Polycythemia (Gaisbock's Syndrome)*

Gaisbock's syndrome[8,9] has been taught to be a coincidence of polycythemia vera

and hypertension. However, Gaisbock felt that the hypertension and absence of splenomegaly distinguished it from polycythemia vera. He also recognized the physiologic polycythemia due to plasma loss, but in contrast to this, he revealed that there were cases that might have an absolute increase in red blood cell volume. Thus, there appeared overlaps between these patients and the relative polycythemias. For this reason the name "Intermediate Polycythemia" is proposed.

This group, usually presenting a hematocrit value over 52%, is singularly homogenous with clinical characteristics previously mentioned. There is present either a relative polycythemia with normal red cell volume or an absolute polycythemia with an increased red blood cell volume. It is important to differentiate these patients from polycythemia vera and secondary polycythemia of distinguishable cause.

1. *Analysis of 12 Patients with Intermediate Polycythemia:*

   Twelve patients with apparent polycythemia selected from practice for evaluation because of an elevated hemoglobin are presented. Included are only those whose course and investigations failed in follow-up, averaging three years, to show any physical explanation for their disease, and suggested the benign nature of their disease.

   It should be noted that the blood volume studies recorded were not obtained when the patient was first seen. In all, blood volume studies were performed at some period during their follow-up visits, but never less than three months after receiving a phlebotomy.

   a. *Laboratory Procedures and Methods:*

      Complete blood counts, including hematocrit, were obtained with a careful study of the peripheral blood smears. Serum uric acid determinations were performed on only four and were found to be elevated in two patients. Bone marrow studies were performed in one case presented here (#11 T.W.) in Table 1. Oxygen saturation studies, like blood volume studies, were not done when first seen but at some later date, at least three months following last phlebotomy. In six patients who had this examination, only one was slightly below the average normal range of 94-98%. Platelets counts were performed in only four patients. If we assume that 250,000-600,000 platelets per cu. mm. is normal, only one patient, who also had unexplained hyper-uricemia, had a thrombocytosis.

Methods and Materials Used by Oliver H. Chabot

Blood Plasma and Red Cell Volumes:

Patients were allowed to rest thirty minutes before study. For blood plasma and red cell volume studies, Squibb Radio Iodinated (I^{131}) Serum Albumin (Human) U.S.P. (Albumatope (R)) was injected in a precalibrated dose.(#)

Blood specimens were collected from the opposite arm after 10 and 20 minutes had elapsed. This was for thorough mixing and for figuring more accurately the zero time.

A well scintillation counter(*) was used to measure the radioactivity of the blood specimens and standard. Calculation for the plasma,

#Squibb, E. R. and Sons, New York. Squibb Radio-Iodinated (I^{131}) Serum Albumin (Human) U.S.P., Albumotope (R) in disposable syringes.
*Chicago Nuclear Co., Chicago, Ill.

TABLE 1

DATA ON TWELVE SELECTED PATIENTS

Case Patient	Age Years	Weight Lb.	Weight Kg.	Height Feet	Mean BP Mm. Hg.	Hgb. Gms. %	Hct. %	Total Bl. Vol. Ml./Kg.	Plasma Vol. Ml./Kg.	Red Cell Vol. Ml./Kg.	Total WBC per Mm.	O_2 Sat. %	Phlebotomies 500 Ml.	Hgb. Average Post-phlebotomies Gms. %	Years Observed
1. D. C.	53	162	73 6	6′	178/100	20.2	56	84.9	39.9	45.0	7650	.....	5	15.9	3
2. J. P.	47	205	93.2	5′ 10″	136/100	19.0	56	62.2↓	27.5↓	34.8	9000	.....	4	16.75	1+
3. L. K.	58	228	103.6	5′ 10″	140/90	19.4	.58	56.5↓	27.3↓	29.1	8100	96.0	2	16.75	1+
4 J. H.	40	190	86.4	5′ 7″	180/120	19.3	58	71.2	31.9↓	39.2	10000	.....	14	16.2	7
5. C. H.	54	214	97.3	6′ 4″	142/94	19.0	63	78.9	37.9	41.1	12750	.....	7	16.0	2
6. T. D.	39	160	72.7	5′ 7″	142/100	19.9	55	81.0	44.7	36.3	7200	.....	10	16.2	3
7. W. C.	37	184	83.6	5′ 11″	130/84	18.4	51	77.2	38.5	38.63	7800	.....	4	16.0	1+
8. J. M.	53	144	65.5	5′ 4″	158/98	21.2	63	80.3	38.2	42.1	8300	98.0	8	16.3	2
9. W. G.	38	141	64 0	5′ 7″	128/84	17.6	53	69.7	40.6	29.2	8000	94.9	1	15.8	1+
10. H. T.	37	172	78 2	5′ 9″	130/94	18.1	56	78.0	36.6↓	41.4	8300	97.8	15	16.8	7
11. T. W.	57	197	89 5	5′ 11″	164/114	18.1	54	62.5↓	32.5↓	30.1	7850	95.2	13+P32	16.2	6
12. R. G.	46	188	88.5	5′ 11″	170/108	19.6	58	69.5	32.3↓	37.2	7200–	93 0	10	16.2	2

Normal (1, #, *) ..... Blood Volume Total ..... 66.0 Ml./Kg. ± 3.3
Plasma Volume ..... 39.6 Ml./Kg. ± 2.0
Red Cell Volume ..... 26.4 Ml./Kg. ± 1.3

Normal Hemoglobin ..... 16 ± 2 (7, 11, 21)
Hematocrit ..... 47 ± 7

Normal WBC—5-10,000 (21, ‡)
Normal O_2 Saturation—97% ± 3 (5, †)

Squibb, E. R. and Sons, New York, Radio-Iodinated Human Albumin, Albumotope (R).
* Chicago Nuclear Co., Chicago, Ill.
‡ Fisher Scientific, Pittsburgh, Pa.
† Instrumentation Lab. Inc., Boston, Mass.

red cells, and total blood volume were made according to the method of Albert and Albert.[2]

Oxygen Saturation: O_2 saturation values were determined from arterial blood according to the Severinghaus formula employing pH and pO_2 determinations made on the I L pH Gas Analyzer(†) Model 127 (5).

Total Leukocyte Count: These were performed with the Fisher Scientific Autocytometer(++), an electronic cell counter. The error was found by personal evaluation to be ± 1.5%.

Hemoglobin: The cyanmethemoglobin (7) method was employed throughout this study. The spectrophotometer calibration employed was verified against a certified hemoglobin standard, Hycel Cyanmethemoglobin. The Drabkins solution was modified according to Green and Teal.[11]

Hematocrit: The micro method was used. Specimens were centrifuged in the micro hematocrit centrifuge at 13,000 RPM for four minutes, according to the micro method.

b. *Clinical Studies and Further Laboratory Data:*

(1) Sex, Race, Age. All of the 12 patients were white males, varying in age from 37 to 58 years.

(2) Symptomatology

(a) Nervousness, headaches, dizziness, in that order, were the chief complaints encountered. All of the 12 patients manifested anxiety and tension, extending over a period of several years, by their histories. Three of the twelve were significantly depressed and two had received psychiatric therapy.

(b) All but two of the twelve patients (83%) offered headache as a presenting complaint. This was usual bitemporal or occipital in location and was not accompanied by nausea, vomiting, ocular or auditory disturbances.

(c) Eight of the twelve (66.6%) complained of dizziness. This was recurrent and varied in duration from moments to several hours. While it was often associated with headache, it was also an isolated and, at times, incapacitating symptom.

(d) Dyspnea was a complaint in six patients (50%). In four of these six, there was an asthmatic history with either chronic, recurrent pulmonary infections or clinical emphysema. Likewise, four dyspneic patients were overweight, as compared with accepted standards, an average of 27.3 pounds. Two were below accepted standard average weight. All of the patients with shortness of breath were cigarette smokers with one exception, and he had discontinued their use only ten months previously on the advice of his physician.

†Instrumentation Lab. Inc., Boston, Mass.
++Fisher Scientific, Pittsburgh, Pa.

(e) None of the patients in this group had symptoms of coronary insufficiency nor a past history of cardio-vascular disease and no vascular complications occurred during the period of observation. Although recent observations indicate these characteristics may be familial, no inquiry or special studies were made of the families of these patients.

(f) One patient had renal colic as a presenting complaint. There was a slight increase in serum uric acid associated with this, but renal function studies were normal. Normal findings were also found in another patient who had hematuria.

(g) Acute duodenal ulcer was the presenting complaint in one patient who has had two recurrences of the same in six years.

(h) Recurrent epistaxis has been noted in two patients and nasal polyposis in another.

(3) Physical Findings:

All twelve men had a ruddy complexion and, in four, it was marked. Eight (66.6%) were overweight, in comparison with the accepted average values for weight and height. Seventy-five percent (75%) had hypertension, if it were assumed that the normal values of arterial blood pressure were, in mm. of Hg., 142 systolic and 90 diastolic, for their age group. No palpable nodes nor organs were found. In particular, a search was made for physical signs or laboratory or roentgen evidence of renal disease or intracranial or hepatic tumors. Also, hereditary hemorrhagic telangectasiae, as a clue to pulmonary arteriovenous fistulae or other right-to-left cardiac or pulmonary shunts were sought, but none was found. Although five of this group had emphysema or chronic bronchitis, the arterial oxygen saturation studies of four were within the normal range of 94-98% and one was 93%. None had clubbing of fingers.

(4) Laboratory Data (see Table I)

Hematocrit: The values in this group averaged, for the 12 men, 56.75%. Ten ranged from 54-64% and two were 51% and 53%. Our normal range 47±7%.[1]

Hemoglobin: This varied from a low of 17.6 gms. to a high of 21.2 gms/100 ml. when the patient was first seen. Our normal range was 16±2 gm/100 ml. The average for the group was 19.15 gms./100 ml. before phlebotomy, and averaged 16.25 gm./100 ml. thereafter.

Leukocyte Ct. The highest leukocyte count was 12,750/cu. mm. with one 10,000/cu.mm. The remaining ten (83.3%) were below 10,000/cu.mm.

Study of Peripheral Blood Smear: There were no abnormal white cells found in

the peripheral blood smear on repeated examinations.

Bone Marrow: These examinations were done on two occasions in case 11 (T.W.) before and after radioactive phosphorus was given when phlebotomies seemed of little benefit. In both marrow studies, normal findings were present.

Arterial Oxygen Saturation Studies: In six patients, five were within normal range of 94-98%. Only one was lower and was 93%.

Blood Vol. Studies: Methods for determining these values have been discussed previously. It should be repeated that these values were not arrived at until some date after phlebotomy had been performed. They were not performed unless three months had elapsed prior to the last phlebotomy.

Total Blood Volume: When compared with estimated normals, nine were increased, three were decreased. We compared our data with Kaung and Peterson,[15] who utilized the CR 51 labeled red cells described by Huff.[14] They found total blood volume to be 61.9± ml/Kg. Three patients exceeded 80 ml/Kg. Our normal value was 66.0±3.3 ml/Kg.[12]

Red Cell Volumes: When compared with estimated normals, red cell volumes were shown to be increased in all 12 patients.

Comparing our figures with Kaung and Peterson,[15] we had an average red cell volume of 37.01 ml/Kg. for this group; whereas, their figures were 29.2±2.9 ml/Kg. Our normal was 26.4 ±1.3 ml/Kg.[1,2]

Plasma Volumes: When compared with the expected normal values, plasma volumes were shown to be decreased in six of the twelve. When calculated on ml/Kg. basis, our average was 35.65. This is essentially the same as the normals of Kaung and Peterson[15] of 32.6±4.4 m/Kg. Our normal was 39.6± 2 m/Kg.[1,2]

c. *Therapy*

Phlebotomy of 500 ml. of blood was found to produce subjective benefit in nine of the twelve patients (75%). This was shown especially by a reduction in headache and, to a lesser degree, in dizziness. In four of six (66.6%) who complained of difficulty in breathing, benefit was claimed following the venesection.

The number of phlebotomies for each patient can be seen in Table I. An average of 2.58 phlebotomies of 500 ml. each per patient year is representative of the use of such therapy. It has been observed that more frequent phlebotomies are needed for the first 12-18 months of observation after which the need may not become noticeable either subjectively or objectively for as long as 14-16 months, although the average is 7-8 months. Subjectively, headaches, dizziness or dyspnea may cause the patient to come for examination sooner than planned. One cannot always correlate these

symptoms with an elevation of hematocrit or hemoglobin. If, however, a patient is symptomatic and a hemoglobin of over 17 gms./100 ml., or an hematocrit of 54% or more is found, a 500 ml. phlebotomy is requested. If the patient is asymptomatic, we do not do a venesection, but reassure them and ask for a recheck of their status in approximately three months or before if needed. In some instances, patients will respond to symptomatic treatment and reassurance. Their blood status may become more stable and less venesections necessary.

Phlebotomy, as therapy, in spite of its simplicity, is controversial as to its benefit. If overused, it can and does give rise to iron deficiency and fatigue.[10] If more than six repeated phlebotomies are required in one year, the patient probably needs iron therapy and consideration of bone marrow suppressants, although this is unusual in secondary, intermediate, or relative polycythemia.

The role of phlebotomy as a therapeutic agent in patients with coronary heart disease and erythrocytosis is also controversial. Evidence of benefit showing decrease in angina when hematocrits were maintained at 45% in males and 42% in females has been presented.[4] It was proposed that phlebotomy lessened the viscosity of the blood by giving lowered red blood cell concentration, thus less cardiac work and less clinical signs of coronary insufficiency. Others found thromboembolic complications in half of their patients with relative polycythemia and felt that the elevated hematocrit may be implicated for the same reasons.[15]

Comparing the hematocrit values of three groups of normal men with those of 200 patients with myocardial infarction, the detrimental effect of an increased hematocrit has been disputed by Conley and associates.[6]

Early investigators[16] did not advise phlebotomies in a group of relative polycythemia patients followed for 6-24 months. No change in symptoms or hematologic findings occurred. They, and others,[19] feel that an elevated total red blood cell volume should be present before venesection is advised.

Russell and Conley[19] admit that moderate hematocrit reduction by venesection does no harm, but its benefit has not been established. It is our feeling, however, that used judiciously, phlebotomy does afford symptomatic relief in those benign polycythemias, whether they have an absolute or relative increase in total red cell volume, and should be employed as described.

Discussion and Summary

We have attempted to point out the difference between polycythemia vera, relative polycythemia, and intermediate polycythemia. The latter disease is elaborated by a clinical survey of a group of twelve men.

These twelve white, middle-aged, male patients selected from practice showed an average hemoglobin of 19.15 gms. and hematocrit of 56.75%. By laboratory evidence, they did not resemble relative or pseudopolycythemia, as the red cell volumes were increased. The plasma volume was decreased, as in relative polycythemia, in half of the patients. Total blood volume was increased in nine of the twelve.

Most of these patients had ruddy complexions, hypertension, tense and anxious personalities and smoked cigarettes. The

majority were of a stocky habitus and complained of headaches, dizziness, or shortness of breath. Splenomegaly and increase in formed blood elements were absent over an average of three years follow up, which for practical purposes, established the benign nature of this group. We have termed this group "Intermediate Polycythemia" rather than Gaisbock's syndrome, as it combines features of polycythemia vera with those of relative polycythemia of "stress", but is neither.

Use of venesection judiciously has relieved some of their symptoms and is believed to be a safe method of treatment. We record 93 phlebotomies of 500 ml. in 36 patient years, or an average of 2.58 in one year. Its use as a prophylaxis in prevention of angina and vascular complications is debated, but does no harm and may be of benefit.

References

1. Albert, Solomon N.: Blood Volume, Springfield, Charles G. Thomas Col, 1963, p. 26.
2. Albert, Solomon N., Albert, Chalom A.: Blood Volume Methology. Picker Clinical Scintillator IX, No. 5-C (Aug. 15) 1965.
3. Blum, Alvin S., B.Sc., and Zbar, Marcus J., M.D.: Relative Polycythemia—Alterations of Red Cell Distribution Simulating Hemoconcentration. Arch. Int. Med. 104:385 (Sept.) 1959.
4. Burch, G. E., M.D., and DePasquale, N. P., M.D.: Phlebotomy—Use in Patients with Erythrocytosis and Ischemic Heart Disease. Arch. Int. Med. III: 687 (June) 1963.
5. Comroe, J. H., Forster, R. E., Dubois, A. B., Briscoe, W. H., Carlsen, E. C.: Arterial Blood, The Lung, Clinical Physiology and Pulmonary Function Tests. Chicago, Year Book Medical Publishers, Inc., 1962.
6. Conley, C. Lockhard, M.D., Russell, R. Patterson, M.D., Thomas, Caroline B., M.D., and Tumulty, Philip A., M.D.: Hematocrit Values in Coronary Artery Disease. Arch. Int. Med. 113:170 (Feb.) 1964.
7. Crosby, William H., Munn, John I., Furth, Frank W.: Standardizing A Method for Clinical Hemoglobinometry. U.S. Armed Forces Med. J. 5:693, 1954.
8. Gaisbock, F.: Quoted by Hall, Charles A., p. 4.
9. Gaisbock, F.: Quoted by Russell, R. Patterson and Conley, C. Lockard, p. 734.
10. Gardner, Frank H.: Polycythemia. Disease-A-Month (June) 1962.
11. Green, P., and Teal, C. F. J.: Modification of the Cyanmethemoglobin Reagent for Analysis of Hemoglobin in Order to Avoid Precipitation of Globulins. Am. J. Clin. Path. 32: 216, 1959.
12. Guajardo, Mario: Polycythemia, Laboratory Medicine, Div. of Clin. Path., Med. College Va. (Vol.) 3:61-63, (May) 1964.
13. Hall, Charles A., M.D.: Gaisbock's Disease: Redefinition of an Old Syndrome. Arch. Int. Med. 116:4-9 (July) 1965.
14. Huff, R. L., and Feller, D. D.: Relation of Circulating Red Cell Volume to Body Density and Obesity. J. Clin. Investigation, 35:1, 1956.
15. Kaung, David T., M.D., and Peterson, Richard E., M.D.: "Relative Polycythemia" or "Pseudopolycythemia." Arch. Int. Med. 110:456, (Oct.) 1962.
16. Lawrence, John H., and Berlin, Nathaniel I.: Relative Polycythemia—The Polycythemia of Stress. Yale J. Biology and Medicine 24:498, 1951-52.
17. Meriwether, T. W., III, M.D.: Polycythemias—Diagnosis and Management, Seminars in Clin. Med., 1962-63, Mayo Foundation (Oct. 9), 1962.
18. Osler, W.: Chronic Cyanosis with Polycythemia and Enlarged Spleen: A New Clinical Entity. Am. J. Med. Sc. 126:187-201, 1903.
19. Russell, R. Patterson, M.D., and Conley, C. Lockard, M.D.: Benign Polycythemia: Gaisbock's Syndrome. Arch. Int. Med. 114: 734-740, (Dec.) 1964.
20. Wasserman, Louis R., M.D., and Bassen, Frank, M.D.: Polycythemia. J. Mount Sinai Hospital, 26:1, 1959.
21. Wintrobe, Maxwell M.: Clinical Hematology, Philadelphia, Lea and Febiger, 1961.

Acknowledgments:

A. Miss Marcia Robbins, Librarian: Richmond Memorial Hospital, Richmond, Virginia.

B. Mrs. Cally R. Lewis, Librarian: Richmond, Virginia City Schools.

C. The Clinical Laboratory Staff of the Johnston-Willis Hospital under the direction of Oliver H. Chabot, Chief Technician, Richmond, Virginia.

D. Dr. John H. Moon, Medical College of Virginia, Richmond, Virginia.

E. Dr. William W. Martin, Jr., Stuart Circle Hospital, Richmond, Virginia.

3604 Monument Avenue
Richmond, Virginia 23230

Gonadal Dysgenesis in a Eunuchoid XX Female

JOHN A. BOARD, M.D.
HERSCHEL L. ESTEP, M.D.
REUBEN B. YOUNG, M.D.
DAVID S. BORLAND, M.D.
Richmond, Virginia

Turner's Syndrome and related conditions are discussed and a case is presented.

IN 1938, Turner[1] described a syndrome of short stature and failure of secondary sexual development associated with congenital webbed neck and increased carrying angle of the forearms. At laparotomy, these patients revealed white streaks of tissue in the area normally occupied by the ovaries. Microscopic examination revealed only hilar structures and ovarian stroma without follicles. In addition to "Turner's Syndrome", several other terms have also been applied to this condition, with "gonadal dysgenesis" being most frequently used. Some components of this, such as the short stature, webbed neck, and increased carrying angle are not secondary to the deficiency of ovarian hormones, but are primary genetic defects.

Most individuals with typical Turner's syndrome have only a single X chromosome (i.e., XO) and therefore are devoid of the balancing effect of another sex chromosome. Each somatic cell in the body thus has 45 chromosomes rather than the normal number of 46, with resulting genetic imbalance. Some individuals with Turner's syndrome may harbor a mixture of several different cell lines, each containing a different number of chromosomes per cell. Such an individual is said to be *mosaic* for this condition. An example would be the simultaneous existence in an individual of one cell line with 46 chromosomes per cell and another cell line with only one X chromosome giving a total of 45 chromosomes per cell (i.e., XX/XO mosaicism). Several mechanisms by which such abnormal chromosomal conditions may arise have been described elsewhere.[2]

In addition to persons with typical Turner's syndrome, there exist a few individuals who have identical streak gonads with no evidence of secondary sex characteristics, but who show no webbing of the neck, short stature, or increased carrying angle. A normal chromosome complement has been demonstrated in a number of these individuals.[3,4,5,6,7] In many such cases, the individual is actually tall, eunuchoid, and has an appearance similar to that seen in persons castrated prior to puberty.

Case Report

This unmarried Negro of female phenotype was first seen when she was 25 years old because of primary amenorrhea. Her height was 71 inches, span was 77 inches, weight was 130 pounds, and blood pressure was 124/70. There was no breast development. Pubic hair exhibited a female pattern, but was of less than average amount. The clitoris had a diameter of 8 mm. The vagina was normal. The uterus was small and no adnexal masses were detected (Fig. 1).

From the Departments of Obstetrics and Gynecology, Medicine, Pediatrics, and Pathology, Medical College of Virginia.

Partial support for these studies was derived from NIH MO1 FR-65-01, NIH AM 07092, & NIH 1 501 FR-05430-01.

The patient was hospitalized on the Clinical Research Ward for further study. Complete blood count, urinalysis, and electrolytes were within normal limits. The protein bound iodine was 5.4 micrograms %. Urinary 17-hydroxysteroids and 17-ketosteroids are shown in Table 1. Urinary pituitary gonadotropins were between six and 16 mouse uterine units per 24 hours. X-rays showed a normal sella turcica, elongation of phalanges, and significant retardation of bone age which was estimated at 14 years, 9 months. A buccal smear showed sex chromatin to be present in 25% of exfoliated cells, a figure within the normal female range. The maturation index observed in vaginal epithelial cells was: 0 parabasal cells, 90 intermediate cells, and 10 superficial cells. A culture of peripheral leukocytes utilizing a micro - modification of Moorhead's technique[8] consistently indicated evidence of 44 somatic chromosomes and a XX sex chromosome compliment. (Fig. 2)

Fig. 1. Tall eunuchoid female with lack of breast development.

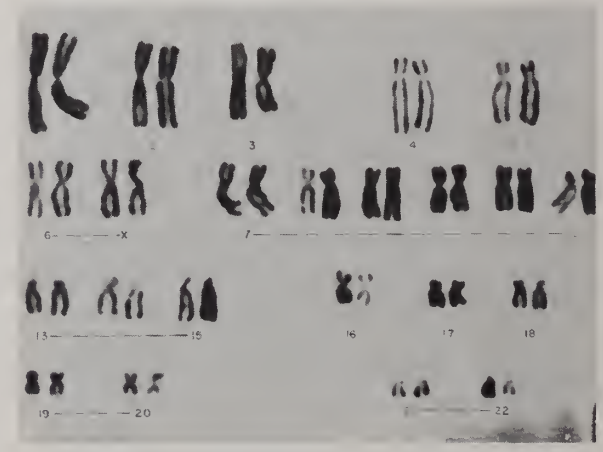


Fig. 2. Karyotype made from a peripheral leukocyte, showing normal female XX chromosomes.

At laparotomy the uterus was found to be very small. Attached to each cornu were fallopian tubes of normal length. In the

TABLE I

Urinary 17-Hydroxysteroids and 17-Ketosteroids in Milligrams Per 24 Hours for the Case Reported and for 4 Normal Female Volunteers

	Control		Metyrapone Test	Dexamethasone 2 mg./day x 6 days		Dexamethasone 2 mg./day x 12 days plus Human Chorionic Gonadotropin 5000 u/day x 6 days	
	17-OH	17-KS	17-OH	17-OH	17-KS	17-OH	17-KS
Case Reported.....	4	7	11	1.4	3.4	1.9	2.3
4 Normal Females:							
Average.....	5.6	5.0	..	1.7	1.1	1.5	2.5
Range.....	3.5–10	3.5–6.8	..	1.1–2.1	0.2–4.3	1.3–2.6	2.0–3.6

areas normally occupied by ovaries were found white fibrous streaks approximately 3 cm. in length and 0.5 cm. in diameter. The lateral half of the right streak was excised for microscopic examination. This showed ovarian stroma containing mesonephric remnants and nests of interstitial polyhedral cells in which crystalloids of Reinke were identified. No graafian follicles were seen. (Figs. 3 and 4)

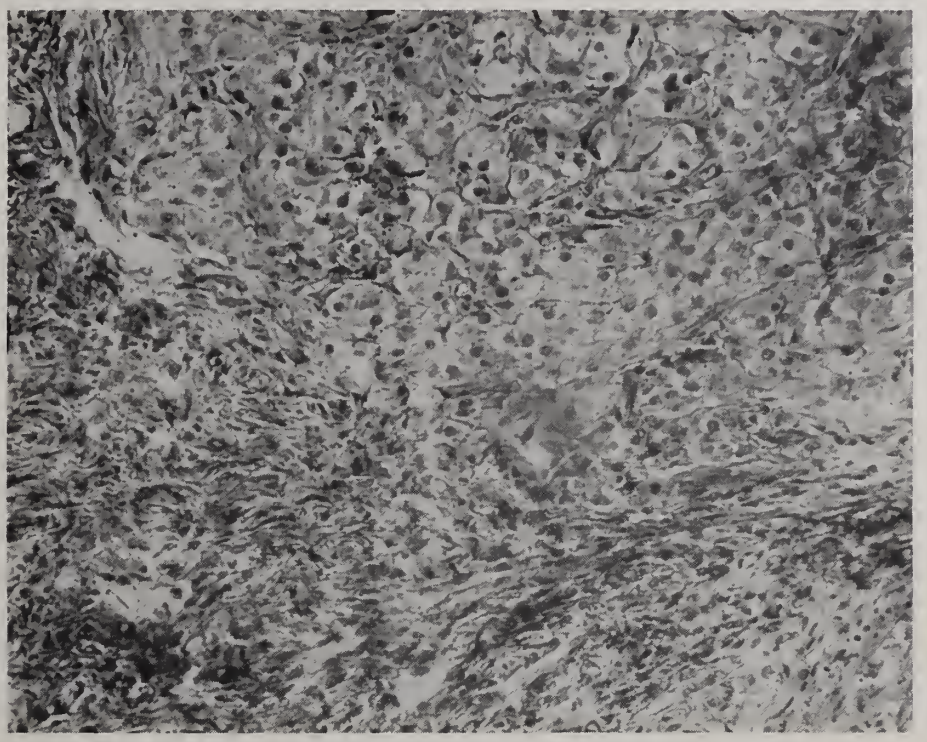


Fig. 3. In the top half of this photograph, note the interstitial polyhedral cells thought to represent hilar cells.

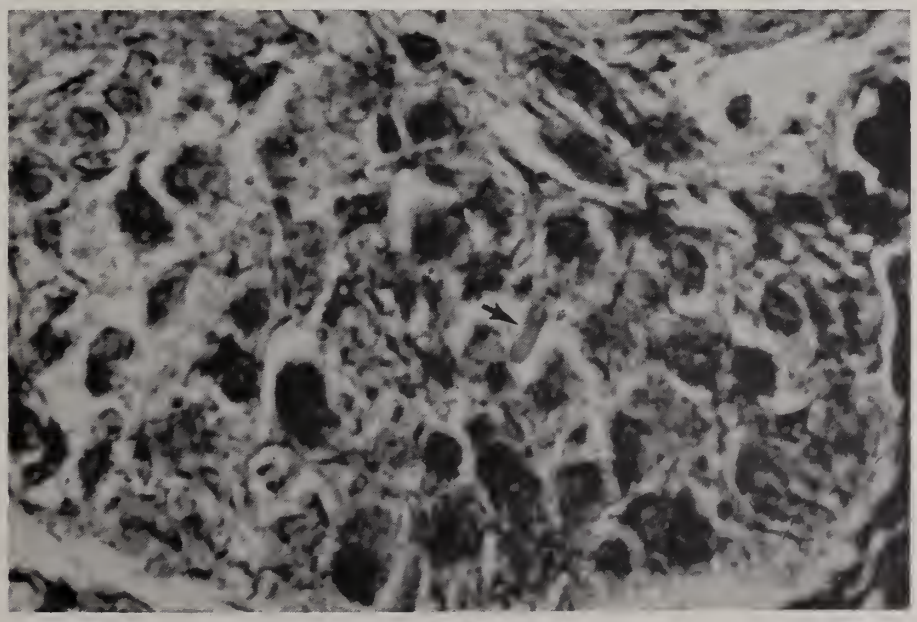


Fig. 4. Higher magnification, showing a crystalloid of Reinke among hilar cells.

Shortly after discharge from this institution, the patient entered a state mental hospital where her diagnosis was schizophrenic reaction, paranoid type.

Discussion

Embryologic origin. Primordial germ cells can first be identified in the three weeks old embryo's yolk sac entoderm. Using a histochemical stain, these cells can be traced as they migrate, at four weeks, through the mesentery of the gut to that part of the genital ridge which is destined to form the gonad. Nearby are wolffian (mesonephric) duct elements, and at five weeks the mullerian (paramesonephric) duct can be identified in this vicinity. The gonad remains an indifferent structure until around six or seven weeks when evidence of its conversion to an ovary or testis appears.[9]

If the primordial germ cells do not arrive at the genital ridge, only a streak gonad will develop. In the case of an XO individual with only one sex chromosome, the germ cells are either nonexistent or deformed and do not reach their destination. In the case of certain other individuals, such as the patient reported here who had normal female XX chromosomes, the primordial germ cells do not complete their journey for some unknown reason and the genital ridge is equally devoid of such cells. It has been suggested that some chemical, physical, or viral factors acting at two to four weeks may be etiologic agents, but this is only speculation.[10]

Endocrine effects. Many of the findings in the case reported here are secondary to the lack of gonadal production of female sex hormones. This includes amenorrhea, lack of maturation to superficial cells in the vaginal smear, absence of breast development, and delayed epiphyseal closure resulting in a retarded bone age and eunuchoid proportions.

Results of urinary steroid studies of this patient and of similar studies of normal volunteers are summarized in Table 1. The control values for the patient are considered normal. The response to metyrapone indicated that the pituitary-adrenal system was functioning in a normal manner.[11]

Dexamethasone 0.5 mg. every six hours for six days suppresses secretion of ACTH and excretion of steroid metabolites of adrenal origin. The reduction in this patient of 17-hydroxysteroids to one third and 17-ketosteroids to one half of control values is considered further evidence that pituitary-adrenal function was normal.

It was possible that the incomplete feminization of our patient was due to secretion of some potent androgen by the ovaries. As androgens are the precursors of urinary 17-ketosteroid metabolites, stimulation by exogenous gonadotropin might be expected to increase such metabolites that were of ovarian origin. Accordingly, 2500 units of chorionic gonadotropin was administered twice each day for 6 days, while dexamethasone suppression was maintained in order to minimize the contribution to urinary 17-ketosteroids by the adrenals. These studies yielded negative results, indicating that androgen production by the ovaries, if any, was insufficient even under maximal stimulation to significantly alter urinary 17-ketosteroids. This lack of effect of human chorionic gonadotropin on 17-ketosteroid excretion had been previously observed in a patient with typical Turner's syndrome who had prominent nests of hilar cells in the gonadal streaks.[12]

Elevated instead of normal levels of pituitary gonadotropins in a 24-hour urine collection would be expected. The production of such gonadotropins may have been inhibited by androgens from the hilar cells. On the other hand, secretion of pituitary gonadotropins may be reduced in psychotic states,[13] and perhaps the normal level found in this case was related to the patient's mental disease.

Microscopic pathology. The nests of interstitial polyhedral cells seen on microscopic examination represent ovarian hilar cells. Embryologically, these are associated with the medullary portion of the gonad, and would be present whether or not the primordial germ cells reached the gonad. These cells are found in normal ovaries and are indistinguishable from testicular Leydig cells. Mesonephric remnants are frequently iden-

tified in the proximity of hilar cells in normal ovaries.

Although hilar cell tumors have been described, and some well differentiated cases of arrhenoblastoma exhibit areas containing Leydig cells, there is no evidence that neoplasm existed in this case. Such tumors are commonly associated with masculinization. A possible explanation is that the apparent increase in hilar cells may simply represent a relative increase secondary to a marked decrease in other structures.

Summary

A phenotypic female with XX sex chromosomes who had streak gonads typical of gonadal dysgenesis was described. She was tall, of eunuchoid proportions, and had no development of secondary sex characteristics. Microscopically, the streak gonads contained only hilar elements and no graafian follicles. The etiology of this condition is probably a failure of migration of primordial germ cells to the genital ridge of the embryo.

References

1. Turner, H. H.: A Syndrome of Infantilism, Congenital Webbed Neck, and Cubitus Valgus. Endocrinology 23:566, 1938.
2. Board, J. A. and Goodwin, A. R.: Turner's Syndrome (Gonadal Dysgenesis). Postgrad. Med. 38:36, 1965.
3. Greenblatt, R. B., Carmona, N. and Higdon, L.: Gonaldal Dysgenesis with Androgenic Manifestations in the Tall Eunuchoid Female. J. Clin. Endocr. 16:235, 1956.
4. Hoffenberg, R. and Jackson, W. P. U.: Gonadal Dysgenesis: Modern Concepts. British M. J. 2:1457, 1957.
5. Jacobs, P. A., Harnden, D. G., Buckton, K. E., Court Brown, W. M., King, M. J., McBride, J. A., MacGregor, T. N. and Maclean, N.: Cytogenetic Studies in Primary Amenorrhoea. Lancet 1:1183, 1961.
6. Kinch, R. A. H., Plunkett, E. R., Smout, M. S. and Carr, D. H.: Primary Ovarian Failure. Am. J. Obstet. & Gynec. 91:630, 1965.
7. Boczkowski, K. and Teter, J.: Clinical, Histologic, and Cytogenetic Observation in Intersexuality. Obstet. Gynec. 27:7, 1966.
8. Moorhead, P. S., Nowell, P. C., Mellman, W. J., Battips, D. M., and Hungerford, D. A.: Chromosome Preparations of Leukocytes Cultured from Human Peripheral Blood. Exp. Cell Res. 20:613, 1960.
9. McKay, D. G., Hertig, A. T., Adams, E. C. and Danziger, S.: Histochemical Observations on the Germ Cells of Human Embryos. Anat. Rec. 117:201, 1953.
10. Jones, H. W., Jr., Ferguson-Smith, M. A., and Heller, R. H.: The Pathology and Cytogenetics of Gonadal Agenesis. Am. J. Obstet. & Gynec. 87:578, 1963.
11. Liddle, G. W., Estep, H. L., Kendall, J. W., Jr., Williams, W. C., Jr., and Townes, A. W.: Clinical Application of a New Test of Pituitary Reserve. J. Clin. Endocr. 19:875, 1959.
12. Gordan, G. S., Overstreet, E. W., Traut, H. F., Winch, G. A.: A Syndrome of Gonadal Dysgenesis: A Variety of Ovarian Agenesis with Androgenic Manifestations. J. Clin. Endocr. 15:1, 1955.
13. Rey, J. H., Nicholson-Bailey, U., Trappl, A.: Endocrine Activity in Psychiatric Patients with Menstrual Disorders. British M. J. 2:843, 1957.

Medical College of Virginia
Richmond, Virginia

Peutz-Jeghers Syndrome with Report of a Case

RICHARD P. BELL, JR., M.D.
Staunton, Virginia

The classical picture of familial polyposis with pigmentation is seen in this case.

GASTROINTESTINAL POLYPOSIS is a term for any abnormal protrusion of tissue into the lumen of a viscus. This seems at first glance to be a redundant statement, yet these abnormalities are so varied in histological pattern as to be entirely unrelated to one another, and, therefore, the term polyp should refer only to shape and conformity rather than disease.

To illustrate the varieties of benign polypoid lesions in the colon and rectum alone, Morson[1] makes the following classification:

A. NEOPLASMS

1. Epithelial
   - Adenoma (including familial polyposis)
   - Papillary Adenoma
   - Villous Papilloma
2. Other
   - Leiomyoma
   - Lipoma
   - Neurofibroma

   } ? Hamartomas

B. HAMARTOMAS

1. Juvenile polyp (retention polyp: congenital polyp)
2. Polyps of Peutz-Jeghers syndrome
3. Haemangioma
4. Neurofiromatosis
5. Lipoma
6. Leiomyoma

   } ? Neoplasms

C. INFLAMMATORY

1. Ulcerative colitis (pseudopolyps), Crohn's disease
2. Regional enteritis
3. Dysenteries, diverticulitis
4. Benign lymphoma

D. UNCLASSIFIED

1. "Hyperplastic" or "metaplastic" mucosal polyps
2. Cystic pneumatosis

Our primary interest in this presentation is Peutz-Jeghers syndrome, which has been noted with increasing frequency since first described by Peutz of the Netherlands in 1921. Later in this country, Jeghers,[2] in 1949, reported 10 cases of this familial phenomenon.

It is noted that there are three significant features in Peutz-Jeghers syndrome, namely, gastrointestinal polyposis, mucocutaneous pigmentation and inheritance of these characteristics through a Mendelian-dominant gene, as illustrated by Burdick[3] and others who followed a large family over a ten year period. The diagram of familial inheritance shows clearly the Mendelian-dominant characteristics. (Figure 1.)

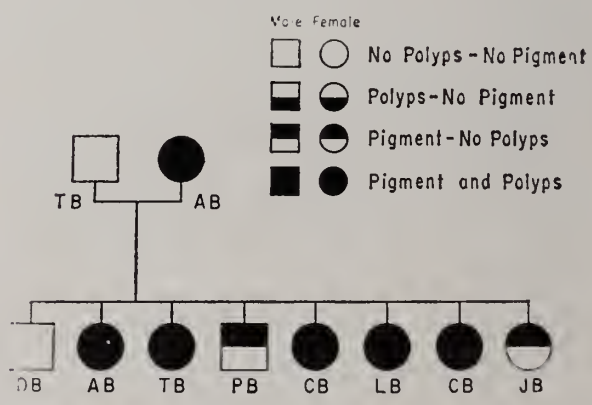


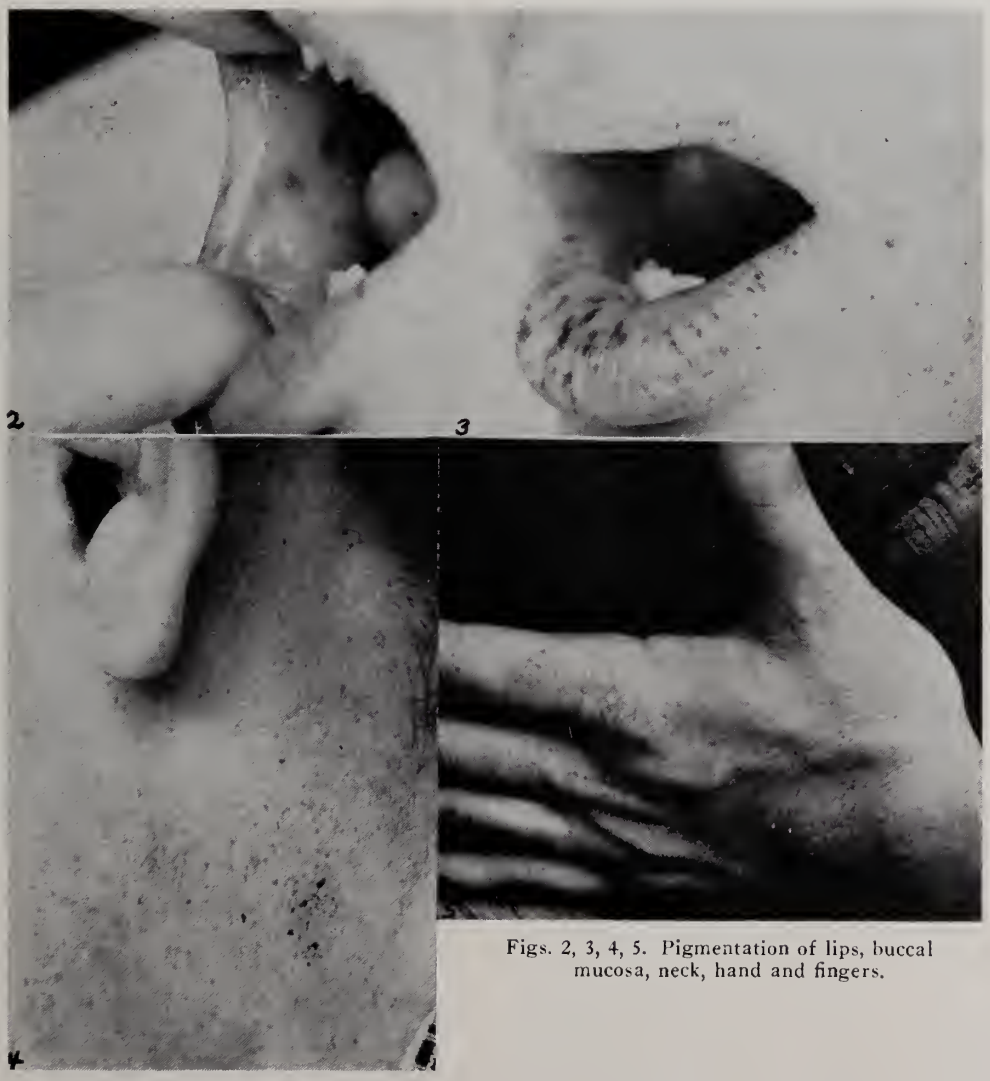
Fig. 1. Diagram of pigmentation in family study. (Burdick).

Presented before the Virginia Surgical Association, April 28, 1966.

We present the following case which illustrates a classical picture, in one individual, of familial polyposis with pigmentation.

A nineteen year old white male was admitted as an emergency to the hospital on July 10, 1963, with the chief complaint that his bowels could not move and something was protruding from the rectum. There was indeed cause for an emergency admission, and after it was determined that he was in good condition for operation, he was taken to the operating room. A large pedunculated polyp, measuring 4 cm. in diameter and incarcerated as well as strangulated through the anal canal, was removed. The stalk of this polyp was so taut and tense, one clamp could barely be placed between the polyp and the anus. The ligature slipped off, and further procedure had to be done to purse string the stalk after much loss of blood and replacement with 1000 c.c. His hemoglobin on admission had been 16.6 grams, W.B.C. 10,100, urinalysis negative.

It was noted that this patient had marked pigmentation of the buccal mucosa, lips, neck, face, and hands. (Figs. 2, 3, 4 and 5)



Figs. 2, 3, 4, 5. Pigmentation of lips, buccal mucosa, neck, hand and fingers.

Reluctantly we discharged the patient on July 13, 1963, three days after admission. He insisted on leaving without further study, stating that he had had no gastrointestinal symptoms or signs before the present episode and felt well enough now

to go home. He did, however, consent to return as an out-patient for barium enema studies which were done on August 27, 1963. (Figs. 6 and 7)

Figs. 6 & 7. Films showing polyps of colon and stomach.

He did not return for further studies, namely, sigmoidoscopic and gastrointestinal series. We, therefore, lost track of the patient until he returned again as an emergency on June 18, 1965, at which time he came by ambulance to the hospital complaining of severe pain in the left lower abdomen on attempt at bowel movement. The pain let up on admission, and enemas at the time were effectual, normal and without blood. The physical findings were otherwise the same as on previous admission. The hemoglobin was 18.6 grams, R.B.C. 5,630,000 with normal differential, and the urinalysis was normal. The abdomen was negative with normal peristaltic sounds. It was presumed there was an intussusception with descensus of another polyp in the sigmoid region, but this could not be proved as the abdomen was negative and the patient felt well when examined.

By this time, however, he had decided to have something done about his condition and submitted to all requested studies.

A sigmoidoscopic examination was performed three days after admission which was negative. A gastrointestinal series, including small bowel study, was done. The stomach showed at least two polypoid lesions. Nothing remarkable was seen in the small intestine except a suggestion of some slight irregularity in the terminal ileum. A repeat barium enema was performed which showed the same pattern of colonic polyps as previously.

Accordingly, the patient was prepared for operation by administration of Neomycin sulphate, and on the sixth hospital day was explored through a left paramedian incision. Five medium to large cauliflower shaped polyps were found ranging from 1.5 to 3 cm. in diameter, all of which were from the mid transverse, splenic flexure, descending and sigmoid colon. The largest was in the upper sigmoid region and evidently was the one which partially obstructed the bowel before this admission. (Fig. 8) Palpation of the stomach and

Fig. 8. Gross specimens showing dimensions (divided).

search along the small intestine revealed no discernible growths, yet by x-ray at least two polyps were thought to be present in the stomach. The stomach was not opened.

The patient went on to uneventful recovery and was discharged from the hospital on the fourteenth day after admission. He has been seen twice in the past six months and feels well. He was last reported to be feeling well April 1, 1966.

His immediate family has been examined for pigmentation, namely, his father, mother, and two half-sisters. None could be found. He is the only child by his mother's

second marriage. The family cannot recall any pigmentation or symptoms consistent with polyps in the forebears.

Discussion

The polyps of Peutz-Jeghers syndrome are said to appear more frequently in the small intestine, particularly the jejunum. They are also found in the stomach and colon, as illustrated here. Polyps have been noted to range from a few millimeters to as much as 5 cm. in diameter.

Grossly, the polyps may appear as any other adenomatous polyps, but the histological difference is quite marked from true adenomas. These polyps, according to Morson,[4] are not adenomas at all but in the nature of a malformation or hamartoma. A hamartoma is the term "for a tumor due to overdevelopment of some tissue element which belongs normally at the site where it is found, or to abnormal relationship of a normally situated tissue element." (Albrecht)

Histological evidence in the stomach and small intestine shows that they are not composed of one predominant proliferative cell, but include all the normally appearing epithelial cells of the gastrointestinal mucosa, that is, the simple columnar cells, goblet cells, Paneth cells, argentaffin cells, and so forth. Yet in the large bowel normal goblet cells only are found in the polyps. Furthermore, the stroma consists of bands of smooth muscle fibers that are in the same relation to the polyps as the muscularis mucosa of the normal mucous membrane. (Fig. 9)

It is shown that there is no evidence of mitotic activity, or such malignant or premalignant changes as are found in true intestinal adenomas and papillomas, particularly in the colon and rectum. True adenomatous polyps are extremely rare in the small intestine and, as pointed out, the polyps of Peutz-Jeghers syndrome are most frequently found in the small intestine.

Since polyposis is so frequent in the colon and rectum, it is therefore important to distinguish Peutz-Jeghers syndrome, particularly when the large bowel is involved, from true adenomatous familial polyps. The latter are, of course, true neoplasms with great tendency to malignant change.

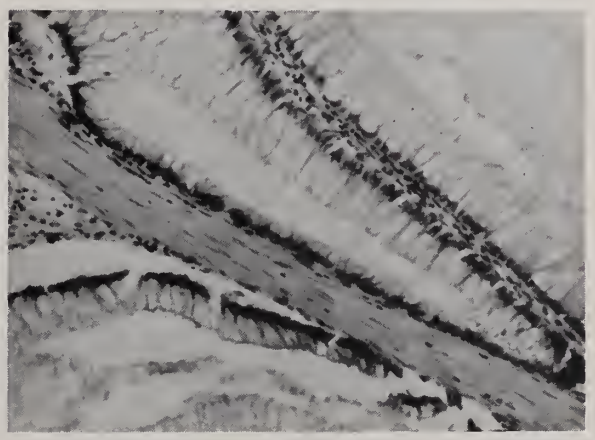


Fig. 9. Characteristic smooth muscle bands between an orderly epithelial base of goblet cells.

An exceptional case of a separate carcinoma from a malignant duodenal carcinoma concomitant with Peutz-Jeghers syndrome is cited by Morson.[4] It is of interest to note that Williams[5] and others recorded the only case, in 1965, of a metastasizing small bowel tumor of the Peutz-Jeghers type which arose from a polyp in the duodenum. Still more recently, Warren[6] and others report, in the same patient, a carcinoma of the duodenum and carcinoma of a polyp of the ileum with Peutz-Jeghers syndrome. The latter was non-invasive.

In the opinion of some writers, particularly Morson, it is questionable whether carcinoma with Peutz-Jeghers syndrome can be directly associated with the polypoid lesions as the cause. Certainly carcinoma of the duodenum and remainder of the small intestine is comparatively rare even when not associated with Peutz-Jeghers syndrome; carcinoma of the colon and rectum, of course, is frequent. An occasional case of association of Peutz-Jeghers syndrome with large bowel polyps and carcinoma has been reported, but none to establish a definite relationship.

Summary and Conclusion

A case of classical Peutz-Jeghers syndrome is presented showing pigmentation and polypoid lesions of the stomach, colon and rectum. This case was explored because of two emergency admissions, one from obstruction of the anal canal and a second because of presumptive intussusception of a polyp of the sigmoid colon.

Peutz-Jeghers syndrome is an entity without malignant tendency. Absolute indication for operation is interference with normal gastrointestinal function such as intussusception, obstruction or bleeding. Operation otherwise should probably be performed according to the individual characteristics of the syndrome.

Acknowledgment: The author would like to thank Dr. Karl Menk, Pathologist, King's Daughters' Hospital, for his aid in preparation and discussion of this article. Also, he thanks Miss Margo Kent for preparation of the photographs.

References

1. Morson, B. C.: Precancerous Lesions of the Colon and Rectum. J. A. M. A. 179: 316-321 (Feb. 3) 1962.
2. Jeghers, H., McCusick, V. A. and Katz, K. H.: Generalized Intestinal Polyposis and Melanin Spots of Oral Mucosa, Lips and Digits; Syndrome of Diagnostic Significance. New England J. Med.: 993-1005 (Dec. 22) and 1031-1036.
3. Burdick, D., Prior, J. T., Scanlon, G. T.: Peutz-Jeghers Syndrome: A Clinical Pathological Study of a Large Family with 10-Year Follow-up. Cancer 16: 845-867, July 1963.
4. Morson, B. C.: Precancerous Lesions of Upper Gastrointestinal Tract. J. A. M. A. 179: 311-315 (Feb. 3) 1962.
5. Williams, J. P. and Knudson, A.: Peutz-Jeghers Syndrome and Metastasizing Duodenal Carcinoma. Gut 6: 179-184 (April) 1965.
6. Warren, K. W., Keene, G. A., and Poulantzas, J. K.: Peutz-Jeghers Syndrome with Carcinoma of the Duodenum and Jejunum. Lahey Clinic Foundation Bulletin 14: 97-102, 1965.

Staunton Medical Center
Staunton, Virginia

Milk Drinking and Respiratory Infections

The child who seems to have one cold after another may be reacting to something in his diet.

A Canadian physician reports four cases in which children's severe respiratory infections were relieved when cow's milk and dairy products were removed from their diets. He is not suggesting that all children with repeated respiratory tract infections are allergic to milk, emphasized John W. Gerrard, M.D., of the Department of Pediatrics, University of Saskatchewan, Saskatoon, Canada. The problem may be more common, however, than is generally realized.

The report appears in the November 7th Journal of the American Medical Association.

In each of the four reported cases, one of the child's parents had a similar problem. All improved when they stopped eating dairy products.

In a few cases, the family members who had respiratory trouble actually craved milk. Dr. Gerrard suggested that craved foods may be the ones causing trouble, for these often appear to be the ones to which persons are sensitive.

The four children had markedly different symptoms. One child was flown into a hospital in coma with a diagnosis of congenital heart disease. Another had abdominal swelling; another had persistent anemia.

In all four cases, however, the symptoms disappeared when dairy products were removed from the diet. A variety of other foods were also eliminated from the diets of three of the children. These included soya-bean products, rice, corn oil, oranges, chocolate, and oats.

Hemorrhoids

MARTIN DONELSON, JR., M.D.
Danville, Virginia

Hemorrhoidectomy, one of the most frequently done operations, is responsible for much unnecessary pain, prolonged morbidity, and convalescence. A simpler and more gentle operation can reduce this in most cases.

TO WRITE ON THIS SUBJECT in this day of implanted artificial ventricles may seem untimely, yet the operation for the excision of hemorrhoids is one of the commonest done today and with little doubt is associated with more morbidity, apprehension, procrastination, and possibly poor public relations than many if not most other more formidable ones.

Almost anyone who has had multiple surgical procedures will invariably rate his rectal surgery as the acme of severe pain. Many patients have developed strictures rather than undergo the painful post operative dilatations necessary to many of this sort.

The current bed shortage, with its computer oriented study of morbidity, indicates that some hemorrhoid patients stay much longer than others and this can usually be related to the surgical technique used.

I once heard a leading industrial physician say that of the post operative rectal patients he saw returning to work, he could in most cases name their surgeon by talking with them prior to examination.

On the other hand, the operation can be made much less painful by the use of a simple technique. In some instances surgery can be forestalled by medical measures plus and including injections of hemorrhoidal veins.

Medical Measures

As a time saver in my practice I have for the past several years used an instruction sheet for rectal health. This emphasizes avoidance of laxatives and mineral oil, as well as undue concern for a "regular" daily bowel movement. The importance of not neglecting the bowel signal is stressed, as is the use of Metamucil® and other similar preparations. Measures to avoid rectal spasm, such as easing out the stool gently, the use of heat by sitz bath or warm injection using an infant enema syringe are mentioned, as well as the use of local anesthetics and suppositories.

These measures are of equal importance in post operative patients to prevent the distressing recurrences and even re-recurrences which sometimes may involve two or three operations. It is most gratifying to follow these patients at intervals and to see moderately severe conditions regress with good medical management.

The injection treatment takes advantage of the fact that the rectal lining one half inch above the anal verge, that is above the so-called "dentate" line, is completely without pain sensation except to stretching. Many solutions have been used to produce irritation and thrombosis of the tissues, but the one most currently favored seems to be Sotradecol®. A large plunger type anoscope is best. Exposure is obtained without anesthesia or sedation, and up to 1 cc is injected into the apex of each dilated vessel using a total of not over 3 cc. Do not inject to the point of blanching and stay at least one half inch above the dentate line. The patient is asked to recline in the prone position five to ten minutes and may have some pain during

this time. Pain after this time indicates too much or too low an injection and can lead to an occasional slough of tissue which is unfortunate but after all gives about the same results as excisional therapy.

This method may take three to six injections at weekly intervals and gives most satisfactory result in selected cases, namely those with little or no external component. Yearly follow-up examinations are desirable.

Surgical Treatment

Anyone treating rectal bleeding will surely reflect on the old English recipe for stewed rabbit which begins "first, catch your rabbit". High digital and adequate proctoscopic examinations and occasional barium enemas must be done to exclude other causes of rectal bleeding.

Just after World War II it was noted that up to forty per cent of a large series of rectal and colon cancers had had preliminary hemorrhoidectomy, a figure one can only hope has now been improved in this day of cancer clinics, electric tables, disposable enemas and even plastic proctoscopes.

It is somewhat surprising that young surgeons are in many cases still being trained with clamps and even actual cautery techniques that should have gone out with the Model T Ford car, never to have been brought back or renovated. Modern texts and journals still occasionally refer to these as desirable.

Post operative pain has been shown to be directly related to the amount of post operative spasm of the external sphincter muscle. This spasm can be greatly reduced, if not prevented, in one of two ways. The first is by adequate divulsion, that is stretching it to at least silver dollar size. The second is surgical section which is done just lateral to the posterior commissure, or a combination of these methods. I favor the latter because there is less chance of a sudden anesthetic inundation and/or noxious reflex, especially cardiac, during this period of divulsion.

One precaution worthy of note is that with complete relaxation of the sphincter such as is obtained with spinal, adequate caudal, and muscle relaxants, there is more difficulty in identifying the external sphincter.

This procedure eliminates the need for any local long acting injections and certainly reduces the amount of post operative pain. Many patients require only analgesics and their course is certainly dramatically different from the ones in which it has not been used. I have found the use of Thorazine® in fairly heavy dose (75 mgm Spansule) given every 8-12 hours, not prn, a most valuable adjunct for pain, especially with overworked or careless nurses. It is probably best to stop order by the third post operative day. Usually by this time the patient is ready for discharge and can take his medicines with him.

Another advantage of sphincter section is that it cuts down greatly the danger of concealed or puddled bleeding behind the spastic post operative sphincter. Normally, no packing or drain is necessary; occasionally a penrose drain can be left in the anal canal to conduct any bleeding to the outside. If packing is necessary, a short length of two inch laparotomy tape is placed in the anal canal and gathered together with a puckering type stitch from above downward. This may or may not be fixed to the anal skin. Cutting the suture the evening or morning after surgery allows the tape to be removed in a relatively painless fashion.

Since the sphincter cannot go into spasm, there must be less after-pain. I have never seen or heard of rectal incontinence from this although the patient may be a little careless with his flatus for a few weeks afterwards.

Once having done sphincterotomy or divulsion, the actual surgical excision can be quickly and easily done by dissecting the three main areas free from outward upward and inward to the anal pedicle. This is secured with one or two hemostatic stitches rather deeply placed. Rarely is it necessary to clamp and tie or sew, never to gouge or

burn. If bleeding seems excessive, the hemostatic suture can be pulled down beyond the external area and lightly stitched to the anal verge, taking care not to suture the sphincter muscle. Other exceptions to this are little radial incisions in the anal skin for drainage and the removal of small veins with a hemostat. I once heard Dr. C. B. Morton of the University of Virginia say that the worse they looked the better they did.

I have used this method since World War II and have never had occasion to take a patient back to surgery for bleeding.

Summary

The medical and surgical care of hemorrhoids has been discussed. Everything stated has been in the domain of proctology for many years and is probably a chief basis for this specialty as such. Despite this, it was not fully appreciated by myself until shown to me by Dr. Morton.

Many skilled and otherwise sensitive general surgeons, of all age groups, may employ techniques which cause severe pain, prolonged morbidity, and convalescence. Prevention of post operative sphincter spasm and a simpler and more gentle operation can greatly reduce this in most cases.

1035 Main Street
Danville, Virginia

Preventi-Care or Preventi-Thought?

The name of the game is The Name when it comes to labeling federal activities in the field of health care, says an editorial in the January 2nd Journal of the American Medical Association.

If the name of the program is right, it's difficult to oppose it and avoid being labeled a "bad guy". Who, for instance, wants to oppose "The Drug Abuse Control Amendments of 1965"? To do so implies that one favors drug abuse. A closer look at the bill, however, reveals it is not concerned with drug "abuse," but with control and distribution of stimulant and depressant drugs.

"The floodgates have opened, and we may anticipate a deluge of dramatic titles which are capsulated value judgments rather than descriptive labels."

The following bills recently became law or are awaiting Presidential signature: "The Child Safety Act of 1966". "The Water Quality Act", and the "Economic Opportunity Act Amendments".

The newest catch title is "Preventicare," a newly proposed federal program for multiphasic health screening of all persons over 50 years of age. "Now there, truly, is a press agent's dream (title) which will enlighten no one but will appeal to all who seek easy solutions."

"Physicians are not opposed to the constructive recommendations incorporated in many of these acts. Indeed, the American Medical Association has vigorously supported some of the bills cited. We believe, however, that prejudgment inhibits constructive debate. Neither sugar-coated titles nor the opposite strategy of scare campaigns serve the populace well in the long run. Medical legislative titles presented to the Congress and to a mature public should be characterized by a forthright approach if medical problems of this decade are to be solved most effectively."

The Need for Research on Mental Illness in Virginia

IAN STEVENSON, M.D.
Charlottesville, Virginia

The problem of the mentally ill and their need for treatment, already tremendous, continues to grow faster than our ability to deal with it. New knowledge of mental illness must be acquired and this can come only through research.

ONE CAN HARDLY OVERESTIMATE the need for better care of the mentally ill in America. Approximately 750,000 patients are resident in mental hospitals and at least an equal number of persons either have been discharged from hospitals and need further care or ought to be admitted for proper care. Yet these 1,500,000 present or potential patients include only the most disturbed of the mentally ill. Beyond them we have to consider and somehow help several millions more of persons afflicted with psychoneuroses, sociopathic personalities, drug addiction and alcoholism; and beyond these we may consider the increasing incidence of crimes and highway "accidents" as falling within the realm of mental illness or at least bordering on it. Although it is not certain that major mental illness is actually increasing in this country it is established that some major expressions of maladjustment, e.g., crime and drug addiction, *are* increasing, and alarmingly more rapidly than our population is increasing. To care for all these persons we have only about 18,000 psychiatrists in this country assisted by a portion of the other physicians, psychologists, social workers, ministers and other interested professional people. Perhaps we can muster, at most, 100,000 persons trained in some fashion to help an estimated 4,000,000 troubled people needing help.

We *can* overestimate the ability of these professional workers and the people they may train to care for the patients needing their help. The new movement called social psychiatry or community psychiatry proposes a vast extension of psychiatric services to persons for whom such help has not been previously available. As an *economic movement*, a movement of social justice, we cannot commend or support this trend too highly. A major social scandal of our times has been the discrepancy between the psychiatric care available to the rich in this country as compared to that which the indigent could command. But as a claimed *scientific advance* in treatment we may and should question the theories of social psychiatry. What new ideas about psychopathology does it put forward? One of these is that mental illness derives from stresses provided by social conditions. We have passed through a phase of blaming mental illness on the wickedness of parents. Now we are told it is not parents who are to blame, but perhaps grandparents or society as a whole. The patient is still regarded as the victim of his environment rather than the author of his condition. Thus it is supposed that social changes in his environment will heal or help to heal the patient. To this end psychiatrists will engage more and more in efforts to influ-

ence social conditions both at the community level and within troubled families having a designated "sick" member. These proposals are based on assumptions, but they may rest on truth yet to be identified.

Now let us turn back to the figures I have cited. These are admittedly crude, but probably conservative estimates. That is, I think I have underestimated the numbers of people needing help and overestimated the numbers of persons who might be mobilized to help them now. More persons will be trained later, but even if the number of trained persons were doubled and the number of needy persons remained the same, there would still be appalling discrepancies. As of now, one trained professional worker would have to assist and help towards recovery at least forty persons. By the time he had finished with them, more would be waiting for his help. Obviously little can be done through individual treatment with present methods. If we turn to group therapy we may help *more* people, but probably with even *fewer* results. Group therapy, although probably beneficial to many disturbed people, does dilute the influence which comes from one helping person assisting another individually. So if we move towards group therapy exclusively we may find ourselves in the situation which Dr. Samuel Johnson described for education in Scotland. Dr. Johnson compared education in Scotland to food in a besieged city. Everyone gets something to eat, but no one is well fed. We may then find ourselves in a kind of stalemate with enormous numbers of half-well people receiving enormous amounts of half-effective therapy, the total numbers of fully rehabilitated persons remaining the same or actually diminishing, and the bill for service steadily growing!

I challenge anyone to show that we can *ever* control mental illness by mobilizing manpower using our *present* knowledge. It simply does not seem possible. The healthy public is not likely to vote the funds required to provide all the trained persons necessary to cope with the problem through service. What then remains?

We may hope for, but hardly expect, a moral transformation of our society. Such a transformation *might* stem the advance of mental illness, since it is possible that much of what we call mental illness comes from a combination of unkindness towards the persons identified as patients and anger or selfishness on the part of these persons towards those who have treated them badly. But we are unlikely to have such a moral transformation unless we have *either* a horrible shock to our complacency such as the catastrophe another World War might bring *or* new knowledge derived from scientific research about the nature of human personality. Such new knowledge will only come from persistent endeavors by trained investigators. And from research may come other new knowledge about the processes of mental illness which could give us new tools for interrupting these processes somewhere in the causal chains as our newer drugs so often can do. And research may discover other fundamental causes of mental illness apart from the one at which I have hinted.

It is curious and yet profoundly regrettable that the public which benefits from research has little interest in promoting it further to the end of still greater benefits. And even some physicians, although they use the advances of research in their practices, join in a demand for more service to the neglect of additional research which might make the service more effective and bring our enormous problems in psychiatry closer to manageable proportions.

Virginia has so far done little for psychiatric research. Not a cent of State funds has ever supported psychiatric research in this State. Yet Virginia has some 15,000 domiciled patients in its State mental hospitals and training schools and thousands more on furlough or cared for in mental hygiene clinics. Virginia spends more than $35,000,000 a year for the care of those persons. Virginia psychiatrists pass on to

their patients the advances derived from research elsewhere. But why should Virginians always import and retail new knowledge found elsewhere? Why cannot we engage in discovery here in Virginia? Why do we not export *our* findings to other less privileged communities?

Increased psychiatric research in Virginia would bring the additional gain of raising the level of service and teaching in psychiatry throughout the State. For the challenge of curious minds questioning and trying to better old theories and techniques somehow drives others to apply better in practice that which they already know. The best teachers are usually those with some urge to improve knowledge through investigation. This is not always the case, because I know some excellent teachers who lack curiosity and some investigators who are quite dismal performers on the lecture platform or in seminars. I mention the stimulus which research gives to teaching and service only to counter the common objection that research is somehow incompatible with teaching and service. I think it is quite the contrary. Research activity exerts a strengthening influence on teaching and service.

But research does not need the justification of improving teaching or service indirectly through charging the intellectual and spiritual atmosphere where it is conducted. Research has already the obvious justification that without it, teaching and service simply continue to apply present knowledge. In the area of mental illness, our present knowledge is pitifully small and, can never get us ahead of the numbers of people who need our help. Fundamental progress in service to patients will have to await new knowledge. And this must come eventually through public pressure and professional support for the necessary research.

Virginia has the potential for much more and better psychiatric research than it has had so far. What we need is more enthusiasm and more vigorous leadership emphasizing the need to improve knowledge through research. And above all we need funds. Let these funds be called funds for service if you will. Say they are for the service to the next generation who deserve better care through improved knowledge of mental illness. But funds for psychiatric research in Virginia we must have under some label if advances in psychiatry in Virginia are not to remain parasitic on the endeavors of workers in other States and countries.

Department of Neurology and Psychiatry
University of Virginia School of Medicine
Charlottesville, Virginia

"Sugarless" Candies

Recommended for dieting and for prevention of tooth decay, can cause diarrhea in small children, reports Dr. Joyce D. Gryboski of the Department of Pediatrics, Yale University School of Medicine. During the past 15 months, 10 children between 20 months and three years of age have been treated at the Yale-New Haven Hospital for gastrointestinal symptoms. A study of these children demonstrated that one package of dietetic mints would cause soft stools or explosive diarrhea within two to five hours after ingestion. Children between five and six years of age were unaffected by the same number of candies.—*New England J. Med.*, Sept. 29, p. 718. (Schering Science Bulletin)

A Case of Transient Schizophrenia Due to Scopolamine Poisoning

HANS H. STROO, M.D.
Roanoke, Virginia

Overdosage with scopolamine produced such uncontrollable symptoms that electro-shock therapy was necessary. Obviously this is a dangerous drug when the dosage is not controlled.

A 30 YEAR OLD white male was admitted in acute, severe agitation. He complained of being persecuted by a man and his wife, owners of a TV appliance store (casual acquaintances) with a gamma ray gun.

His explanation of their vindictiveness was as follows: On the preceding day he had received an auditory message directing him to pick up a magazine. As he did so, some radio-active glue, deposited on this magazine, rubbed off on his fingers. These fingers thereupon became "aerials" and he started receiving more and more messages. He then began to realize the acquaintances above noted were behind it all. When he then used his fingers as transmitters to tell them what he thought about their entering his house and putting radio-active material on his magazines, he went so far as to threaten them with the police and the F.C.C. He then saw them arrive in a green car and come after him with a ray gun. He attacked the man with a claw hammer in his backyard, but fortunately the victim was entirely hallucinated and was able to follow patient to the hospital.

Upon admission patient was found to be agitated, with a blood pressure of 165/85, a regular pulse rate of 76/min. He was well oriented as to time and place, related well to examiner and personnel but attempted to hide in closets and other patients' rooms because his persecutors were trying to pull walls down with a magnetic device in order to get at him with the ray gun. He continued to see them in action.

Past history revealed that patient had been in a State Hospital in 1961 for a period of 27 days on an inebriacy commitment, having become morose and erratic after prolonged beer drinking.

He had been "unhappily" married for three years, was separated from his wife in 1961, and now divorced. His wife had custody of the child. She had promised to visit with the child, approximately at the time of this admission, but had reneged. There had been a few heated phone calls in the week prior to admission. Three days prior to admission he had stumbled at night in his bedroom and hit his head.

Since then he had not been able to sleep and had purchased a sleeping medicine containing 0.2 mgm of scopolamine per tablet. It later developed that he had found them extremely "mild", they had not put him to sleep and he had continued taking larger quantities so that in three days progressively he had ingested 60 tablets for a total of 12 mgm of scopolamine.

On physical examination there was no mydriasis beyond what can be seen in the average panic stricken patient, pupils reacted to light and accommodation; they were round and equal. Fundi were hastily seen, there was no papilledema. Absence of tachycardia (76/min), a blood pressure

(130/80) within the normal range and a neurological status normal within the range of his limited cooperation added no evidence as to the probable diagnosis. The patient was oriented as to place and time. He was evidently suffering both visual and auditory hallucinations. By the next day we had obtained a negative urinalysis, blood bromides ō, hemogram normal (W.B.C. 7500).

He had received 300 mgm Thorazine and 15 mg Stelazine in 18 hours. He had catnapped sporadically underneath the bed, and warned me on approach that he was radio-active.

A differential diagnosis of scopolamine intoxication or catatonic excitement was as yet not resolved and in view of the patient's impending exhaustion and dehydration, electro-shock treatment was started. In the afternoon of that second day, the patient was a good deal calmer and had ceased to hallucinate. In the ensuing week he appeared a little hypomanic. He had a clear memory for his delirium and relished in telling about it.

He was discharged and two months later an MMPI was administered. *Salient features were that the validity scales were within normal limits but indicated a highly defensive attempt to "fake good". The combination of D, Ma and Si scores suggested a person "quite uncomfortable" but unable to admit this with high anxiety. A defensive avoidance of the schizophrenic scale items was noted. The overall impression was one of manic defense against underlying psychotic personality structure, with evidence of concern about masculinity.

Since his discharge, well over a year has elapsed. He chose to maintain only a cursory follow-up contact with the psychiatrist. With the approach of Christmas, another period of friction with his estranged wife occurred and for insomnia he used gluthetimide. However, he took the whole prescription at once and slept two nights and a day.

*I am indebted to Theodore F. Grant, Ph.D., Assistant Professor of Psychology at R.P.I. for his interpretation.

Discussion

Scopolamine leads to hallucinosis and the latter can be theoretically distinguished by somatic symptoms[1,2,3] Tachycardia (except in infants and old people), mydriasis with fixed pupils, dystaxia, high temperature, flushed skin, increased WBC, nausea and coma, should help in establishing the diagnosis, the visual nature of the hallucinosis would point in the same direction. Most authors describe amnesia for the episode. Mecholyl injection does not produce the usual perspiration lacrimation and salivation. A highly anxious, excited catatonic however is likely to have a relative mydriasis, tachycardia in an agitated patient is a relative sign. G. O. Beach et al.[4] reported on 214 cases of scopolamine poisoning with "plucking movements", disorientation, convulsions, hallucinations and coma. They estimate a high incidence of such cases due to the ready availability of these so-called "harmless" drugs. Haertzgen[5] notes in a study on the psychological effects of scopolamine that scopolamine HBr (in dosages 5.0-7.5 mcg/kg) increases a feeling of "inefficiency" and impairs memory in the person taking it. In a subject such as ours, given to defensive avoidance and depressive mood tone, the effect of a "sleeping pill" is sought to be denial of a depressing sense of futility. The patient however becomes easily unaware of how much medicine he has taken (relative amnesia), he feels more futile and tends to take more, not in a true suicide attempt but unwittingly intoxicating himself.

The aggressive behavior, meant as a defense against hallucinated enemies did not, in this case, lead to physical harm. Attention is called to the possible forensic implications of the use of this drug.

Lundquist[6] and Parfitt[7] describe prolonged untreated transitory schizophrenic episodes due to atropine poisoning. The lack

of pathognomonic physical signs of atropine poisoning in our case suggests that the effect of poisoning had worn off but that an episode of homosexual panic resembling that seen in schizophrenia had been triggered and lingered on. An alternate explanation would be that the toxic effect is maintained longer in the central than in the peripheral vegetative system.

BIBLIOGRAPHY

1. Goodman, Lewis S. and Gilman, Alfred: A Pharmacological Basis of Therapeutics.
2. Hughes, John D. and Clark, James A.: Stramonium Poisoning, a Report of Two Cases. JAMA 112:2500-2 (1939).
3. Greenwald, Seymour and Beer, Daniel T.: Toxicity Due to Excess Ingestion of an Antispasmodic Agent, N.Y. J. Med. 6:3157-9 (1961).
4. Beach, G. O.: New England J. M. 270:1354-5 (1964).
5. Haertzgen, Charles A.: Subjective Drug Effects: A Factional Representation of Subjective Drug Effects on the Addiction Research Center Inventory. J. Nerv. & Ment. Dis. 140: 280-289 (1965).
6. Lundquist, G.: Ein Schizophrenisches Syndrome mit Exogener Genese: Gleichzetig ein Beitrag zur Symptomatologie der Atropin Vergiftigungen. Acta psychiat. et neurol. 10:97, (1947).
7. Parfitt, D. N.: An Outbreak of Atropine Poisoning. J. Neurol. Neurosurg. and Psychiat. 10:85, (1947).

1125 First Street
Roanoke, Virginia

Background of the Drug Addict

There may not be as much difference as had been thought between the backgrounds of drug addicts and non-addicted delinquents, according to a report in an American Medical Association publication. The same conditions of poverty, slums, and broken homes seem to produce both kinds of people, according to the December issue of the Archives of General Psychiatry.

A 12-year study of 100 New York narcotic addicts shows that there even are surprisingly few differences in the backgrounds of Negro, Puerto Rican, and white addicts. They all had the same problems which seemed to lead to addiction; broken homes, the lack of a "father figure" to give them guidance in early adolescence, and a difference in the two generations' cultural backgrounds. This latter factor seemed to be the most important in producing an addict.

Whether Negro or Puerto Rican, a high percentage of the addicts' families had come from some other culture to New York's urban environment. This difference between the southern United States or Caribbean background of the parents and the environment in which the addict grew up seemed to be particularly troublesome as the child neared adulthood.

"At least in part, addiction appears to stem from a lack of adequate identification with the adult role due to events occurring in childhood."

This 12-year follow-up of 100 New York addicts admitted to the U.S. Public Health Service Hospital, Lexington, Ky., suggests that most addicts "have been deprived, not only . . . by minority group membership and slum residence, but also by physical loss of parents and having been born into a culture different from the one in which their parents lived."

These addicts' delinquency often preceded drug use. Their often inadequate school and job performance occurred despite adequate or superior intelligence. Although addicts do differ from other delinquents in some ways, the study suggests that urban drug addiction may be best understood by studying general group behavior, not by setting addicts apart as a special social group.

The author is George E. Vaillant, M.D., of the Department of Psychiatry, Tufts Medical School, Boston, Mass.

The Image of the Drug Industry, as Seen by Town and Gown

WILLIAM J. HAGOOD, JR., M.D.
Clover, Virginia
JOHN A. OWEN, JR., M.D.
Charlottesville, Virginia

Results of a questionnaire with regard to the pharmaceutical industry and products are presented.

DURING THE LAST SEVERAL YEARS the pharmaceutical industry has repeatedly made headlines—not always to its advantage. Perhaps for this reason, the Public Relations Section of the Pharmaceutical Manufacturer's Association included in its 1964 convention program a panel discussion on the industry's image in the eyes of the physician. In preparing our independent presentations for this program we distributed two questionnaires: one to 200 general practitioners in the rural areas and small towns of Virginia and the other to the medical students, interns, and residents of the University of Virginia Medical Center. The contrasting responses from the two groups have given rise to some discussion and conclusions which may be of interest.

The General Practitioners' Questionnaire

There were five general questions on this list, as follows:

1. What is your impression of the pharmaceutical industry? Why do you have the opinion you have expressed?
2. What influences you to use a drug company's product? Why do you think the influences you have expressed are important?
3. Do you favor the continuing use of the medical service representatives or "detail men" by the drug companies? Why?
4. Do you think the cost of drugs is too high, too low, or about right? What would you suggest the pharmaceutical industry do to better inform the patients why drugs cost what they do?
5. What is your opinion of the apparently growing practice of physicians gaining a financial interest in pharmacies and drug distribution firms? Why do you have this opinion?

Of the 200 physicians queried, 80 (40%) responded; these 80 resided in 55 of Virginia's 99 counties and had practiced medicine from three to 61 years in offices located either in open rural country or in villages ranging in population up to 4200. In the following paragraphs, percentage figures will be based on the 80 responses.

In reply to the first question, 64 physicians (80%) affirmed that they have a good impression of the pharmaceutical industry, based primarily on the industry's extensive research programs and high ethical relations. Another 9% were non-committal. Only nine physicians (11%) actually criticized the industry because of exorbitant prices, pushy and garrulous detail men, or excessive advertising.

Presented before the Public Relations Section of the Pharmaceutical Manufacturers Association, Sixth Annual Meeting, Hot Springs, Virginia, October 4-7, 1964.

From the Division of Clinical Pharmacology, Department of Internal Medicine, University of Virginia School of Medicine, Charlottesville. Aided by Training Grant HE 5544 from the United States Public Health Service.

As reasons for using a specific company's product, 40% claimed to be guided mainly by previous results with the product, 33% by the positive influence of detail men, 28% by the over-all integrity of the company, 21% by medical journals, and 14% each cited the research behind the drug and the relative cost of the drug as being crucial to their decision. There were in all 17 reasons given, the least popular (1 physician, 1%) being the evaluation of the drug by the *Medical Letter*.

Regarding the utility of the detail man, 85% of general practitioners gave him a strong vote of confidence, because his new drug information was valuable to them and he could order drugs directly for dispensing physicians. The other 15% felt that in view of the abundant available literature his services could be eliminated and the resultant savings be passed on to the patient.

Questioned about drug prices, 51% of general practitioners thought that they were "about right", and 45% thought that they were "too high"; none considered them "too low". Furthermore, 24% urged a better public relations attempt to help the layman understand why drugs cost what they do. However, one physician urged the opposite course: "reduce the cost instead of spending more money to tell the patient why drugs are expensive."

Finally, the general practitioners were definitely opposed (75%) to the practice of physicians gaining a financial interest in pharmacies and drug distribution firms.

The Medical Center Questionnaire

Questions 1 and 2 required a listing of material gifts from drug companies and stock ownership in them. Questions 3-5 asked for a graded evaluation of the pharmaceutical industry on its (1) record in the development and testing of new drugs, (2) margin of profit in prescription drugs, and (3) performance in disseminating information about new drugs. Questions 6 and 7 tried to assess the impact of the new Food and Drug Administration regulations concerning clinical trials in terms of general awareness and reaction. In question 8, each person was asked to compare and rate the following over-all sources of comprehensive information about new drugs: faculty and house staff, scientific meetings, scientific articles, advertisement in medical journals, mail literature from drug companies, detail men, the "Physician's Desk Reference," the *Medical Letter* and drug inserts. Question 9 asked for a correct matching of both the generic names and the therapeutic effects to the trade names of twenty common drugs.

Question 10 was multiple choice: "The pharmaceutical industry could better serve the medical profession by (1) continuing just as it is; (2) cutting prices; (3) developing more new drugs at a faster rate; (4) sponsoring more post-graduate courses; (5) distributing more educational material; (6) changing its advertising policy as follows; (7) changing its drug development policy as follows; (8) changing its detail man program as follows; (9) changing its drug sample policy as follows; or (10) other." Question 11 asked each person to assign a grade rank to the following factors as strongly affecting his opinion (good or bad) of a specific drug company: "(1) advertisements; (2) experience with its products; (3) gifts and services to you; (4) research support; (5) assistance in post-graduate and medical educational programs; (6) detail men; and (7) other."

Returns from this questionnaire were scattered, ranging from a 7% response from the second-year class to a 30% response from the fourth-year class. There were 73 questionnaires completed and returned from the 384 persons polled, an over-all 19% response.

Almost everyone had received some sort of gift from one of the drug companies. Eli Lilly and Company had donated 57 pen lights, 46 medical bags, 45 percussion hammers, 35 stethoscopes, 30 pocket notebooks,

28 tuning forks, 19 pen knives, and 18 tape measures, as well as sundry other diagnostic aids, to the 73 persons polled. Burroughs Wellcome & Company had given 18 pocket notebooks, Ciba Pharmaceutical Company had distributed 11 subscriptions to the *Ciba Symposia*, and Wyeth Laboratories had given 10 pen lights. In all, 19 drug companies were listed as donors, some only once, of generally minor and inexpensive gifts.

Of the 73 polled, six owned stock in one or more drug companies and 58 of the non-owners considered such stock to be a good financial investment.

Most answers rated the pharmaceutical industry's record in development and testing of new drugs as good (41, or 56%), its margin of profit in prescription drugs as wide (35, or 48%), and its performance in disseminating information about new drugs as good (39, or 54%). Most of the other answers were equally divided between the two evaluations nearest the mode ("very good," and "fair").

Knowledge of the current Food and Drug Administration regulations regarding clinical drug trials seemed to be greater among residents than medical students: 26 out of 35 students had at most a vague cognizance of them; 17 out of 32 residents had a fairly good or exact knowledge. Most medical students felt they were "necessary and reasonable", but the residents were divided equally between this viewpoint and "necessary and unreasonable". In addition, five residents felt them to be "unnecessary and unreasonable", and three "highly commendable and long over-due".

The ratings of best sources of comprehensive information about new drugs are shown in Table I. The influence of faculty and house staff rises to a peak during the intern year and then progressively declines. Articles in medical journals appear to be the most consistently respected authority throughout, with the *Medical Letter* running a close second during the post-graduate period. Advertisements, mailed literature and the detail man are usually at the bottom of the list, although the latter performs better during senior residency years.

In the matching quiz, some generic names were almost as familiar as their corresponding trade names but there were some impressive discrepancies: 60 persons correctly described Elavil (Merck Sharpe and Dohme) as a mood elevator but only 14 of these knew that its generic name was amitriptyline; 60 persons knew the therapeutic action of Dulcolax (Geigy) but only 23 knew its generic name.

The last two questions produced the most spontaneous responses. The suggestions for the pharmaceutical industry are summarized in Table II. The same general sentiments are reflected in the responses to the last question, illustrated in Table III. The same three sources of dissatisfaction (detail men, advertisements, and gifts) are again apparent.

TABLE I

Q. 8. Which do you believe to be the best over-all source for comprehensive information about new drugs?

M.S.2	*M.S.3*	*M.S.4*	*I.*	*R.1*	*R.2*	*R.3*	*R.4*
Insert	P.D.R.	Journ.	FacHS.	Journ.	Journ.	Journ.	Journ.
Journ.	Journ.	FacHS.	Journ.	MedLet	MedLet	MedLet	MedLet
FacHS.	FacHS.	P.D.R.	P.D.R.	FacHS.	FacHS.	Insert	Meets.
Meets.	MedLet	Insert	MedLet	Meets.	Insert	FacHS.	FacHS.
P.D.R.	Meets.	MedLet	Meets.	P.D.R.	P.D.R.	Detail	Detail
Ads	Mail	Meets.	Insert	Insert	Meets.	P.D.R.	P.D.R.
	Insert	Mail	Ads	Ads	Mail	Meets.	
	Detail	Ads	Mail	Detail	Ads	Mail	
	Ads	Detail	Detail	Mail	Detail	Ads	

Legend: M.S.—medical student; I.—intern; R.—resident. Numbers indicate years of training. Abbreviations for sources self-explanatory.

TABLE II

Q. 10. The drug industry could best serve the medical profession by

Sponsoring more post-graduate courses	18
Distributing more educational material	18
Cutting prices	16
Changing its advertising policy	15
Changing its drug sample policy	15
Changing its detail man policy	14
Developing more new drugs at a faster rate	7
Changing its drug development policy	7
Continuing just as it is	5

stances, (b) new products of competitors, and (c) no treatment at all. Also, to make best use of his limited reading time he gladly dispenses with all save the most authoritative sources of information. So it is unlikely that mail literature and journal advertising have any lasting impact; both could probably be curtailed completely without much effect on the practice of medicine.

TABLE III

Q. 11. Your opinion (good or bad) of a specific drug company is most strongly affected by:

Factor	*Total Response*	*Favorable*	*Unfavorable*	*Either*
Experience with products	57	9	..	1
Detail Men	32	1	12	1
Advertisements	23	2	7	3
Personal gifts, etc.	19	6	3	..
Post-graduate educ. support	17	8	..	..
Research support	14	8	..	..

Comment

It would be imprudent to attempt multiple interpretations of the responses to two different questionnaires, distributed to two different and heterogeneous groups, with such a variable percentage of replies. However, the following similarities deserve emphasis.

1. There is general appreciation for and satisfaction with the over-all performance of the pharmaceutical industry.

2. A feeling that drug costs are too high or profits too wide is evident in 45% of the answers from the general practitioners and in 48% of those from the Medical Center.

3. Most doctors judge a drug company by the efficacy of its products, with the activities of the detail man receiving second place in consideration.

In addition, one may ask what is the comparative efficacy of the three forms of advertising: direct mailing, medical journal ads, and the detail man? The physician has a built-in bias against them all, knowing that none is likely to give him what he wants: a carefully balanced comparison of the product vs. (a) older, simpler sub-

This is true because in their absence the detail man could serve the same functions. Conversely it is hard to see how impersonal mailings and glossy advertisements could take the place of an ideal detail man: cheerful, helpful, disarmingly proprietary, willing to listen and happy to debate. Although the physician spends time with him, he spends it as he chooses; he can in effect carry on a conversation with a person, with a drug company, or with the entire pharmaceutical industry.

If the ideal detail man exists, he is clearly outnumbered by his imperfect brethren who reportedly interrupt the office routine, parrot stereotyped enconiums, hawk their wares in a truculent manner, and talk without listening. This confrontation destroys the one thing the physician wants: a chance to learn some valid information. Since the physician is unlikely to change his attitude, the pharmaceutical industry must become more information-oriented. This metamorphosis cannot occur spontaneously but requires active and vocal effort on the part of the physician. The following avenues of information have been worked out at many teaching medical centers:

1. A hospital policy for detail men requires that any "detail visit" (five minutes) to any physician be scheduled through a central office.

2. A similar policy encourages drug companies to work through a central office in arranging clinical trials of new drugs, thus bringing together the most promising drug and the best-qualified investigator.

3. Books, films or other educational material can be useful in both medical and post-graduate education; courses and lectureships, research fellowships and honoraria for visiting speakers have been deeply appreciated gifts from the pharmaceutical industry.

4. Occasionally the drug company may support an entire laboratory or clinical research area, where patients are hospitalized for study by all the newer techniques of clinical pharmacology.

Implicit in all of these programs is the presence of a professional person or persons who maintains a liaison with the drug house representatives and arranges these collaborative efforts. At every opportunity such a person works toward one specific goal—to help bring the best information available from the drug houses to the physicians.

Whenever the physician works actively in cooperation with the pharmaceutical industry in these areas, he appreciates anew its scientific contributions and puts aside his built-in resistance to its commercial aspects. Thus these possible approaches to a closer working relationship, while sometimes apparently restrictive, cannot fail to increase the physician's appreciation of the industry—a reservoir of good will which is a powerful reality and capable of even greater enhancement. The medical profession and the pharmaceutical industry, working together, should bend themselves to that task.

Department of Internal Medicine
University of Virginia
Charlottesville, Virginia

Alcoholism a Disease

Recent court decisions recognizing that alcoholism is a disease, not a crime, are in agreement with a position adopted by the American Medical Association ten years ago and reaffirmed in 1962, says an editorial in the August 15th Journal of the American Medical Association.

As a result of the court decisions, the medical profession faces increasing responsibility for "a wide range of alcoholic problems previously left primarily to law enforcement agencies."

The statement was approved by the AMA's Committee on Alcoholism and Addiction and the AMA Council on Mental Health.

The most immediate task is to develop guidelines for diagnosing alcoholism "which are as clear and precise as possible and which satisfy both medical and legal definitions."

A second obligation of the medical profession is to "foster the admission of alcoholics to those general hospitals that do not now admit such patients" and to establish detoxification units closely affiliated with established, long-term treatment centers and associated agencies.

"Next, we (physicians) should play an important role, not only in the education of many members of our own profession, but also in educating police and other concerned groups about issues of acute and chronic alcoholic infirmities."

Finally, physicians should integrate their specialized skills on an equal basis with other professions "in those long-term endeavors (of alcoholic management) in which purely psychiatric or other medical factors are not predominant."

Clinicopathological Conference . . . .

Marked Edema, Wheezing and Cardiomegaly

Prepared and edited by:
LOCKHART B. McGUIRE, M.D.
DAVID E. SMITH, M.D.
University of Virginia
Charlottesville, Virginia

CLINICAL DISCUSSANT:

Preston B. Lowrance, M.D.

UVH #54-50-31. Autopsy No. 10317

This conference was held on November 20, 1965.

This 59-year-old Negro farmer came in the Surgical Clinic because of a right inguinal hernia, which had appeared four weeks previously. He was observed to have rather marked respiratory distress and dependent edema, and was referred to Medicine for admission. The patient claimed to have been in generally good health over the years except for "asthma". This had consisted of periods of wheezing, mostly during late summer and spring, for many years without conspicuous cough, sputum, or hemoptysis. About four years previously there had been a period of dyspnea and ankle swelling, which was treated with shots and a "pink heart pill". This was followed by enough regression of these symptoms to permit him to resume fairly heavy farm work until about six months previously. At this time swelling of the ankles and abdomen and exertional dyspnea recurred. These had persisted in varying degrees to the time of admission. There had not been orthopnea, paroxysmal nocturnal dyspnea, chest pain or syncope. There had been a moderate exacerbation of his "asthma" recently. There was no prior history of heart murmur or hypertension.

Physical examination: A sturdy, muscular, cheerful man, appearing his stated age. Wheezing was intermittently present during his first few days in the hospital. T 99, P 108, R 24, BP 132/94. There was some increase in AP chest diameter, but no stigmata of emphysema. There were prominent cervical venous pulsations. An old, traumatic corneal scar and mucopurulent nasal secretions were noted. There were decreased breath sounds and a few clicking rales at the lung bases, as well as generalized rhonchi. The heart was enlarged to percussion, and there was an easily felt, diffuse, lifting impulse to the left of the sternum. S_2 seemed to be single, but heart sounds were frequently obscured by wheezes. A grade 2/6 systolic murmur in the tricuspid area was noted. Diastole was silent. There was very marked, pitting edema from the ankles to the abdominal wall and sacrum. The liver was down 3 cm. There was a right inguinal hernia. The extremities were unremarkable, except that the left calf was 1.7 cm. greater in circumference than the right.

Laboratory studies: Hct 47%, WBC 8,300, rising to 23,800 with a shift to the left. VDRL negative. Stool negative. Urinalysis twice showed 2+ albumin, S.G. 1015, and unremarkable sediment. Fasting blood sugar, urea, electrolytes and serum calcium were initially normal. Later the blood urea rose to 80 and subsequently 55 mg%, creatinine was 1.4 mg%. Bilirubin 3.9 mg% total (1.35 mg% direct), serum albumin 4.2, globulin 4.4 gm%, alkaline phosphatase 6.9 and 5.5 Bodansky units (normal 4.5), thymol turbidity 1.5 units, serum LDH 84, SGOT 109 (normal 44) and SGPT 24 units. Serum protein electrophoresis showed the increase in globulins to be in both beta and gamma fractions. Protein bound iodide 3.6 micrograms %.

X-rays of the chest showed marked, generalized cardiac enlargement, pulmonary congestion, and bilateral pleural effusions.

(See Fig. 1.) Electrocardiogram showed sinus tachycardia, frontal plane ORS Axis of + 110°, and rSR′ pattern in V1. The R′

Fig. 1. Chest x-ray shows cardiac enlargement to the left and right, and pleural effusions. The lateral films (not illustrated) showed left ventricular and atrial enlargement. This, plus the pattern of pulmonary venous engorgement, suggest a functional pattern of failure of both sides of the heart.

wave was 25 mv in amplitude in V1. (See Fig. 2.) On 6/21/65 arterial gases were pO_2 73 mm Hg, pCO_2 36.5 mm Hg, and pH 7.42.

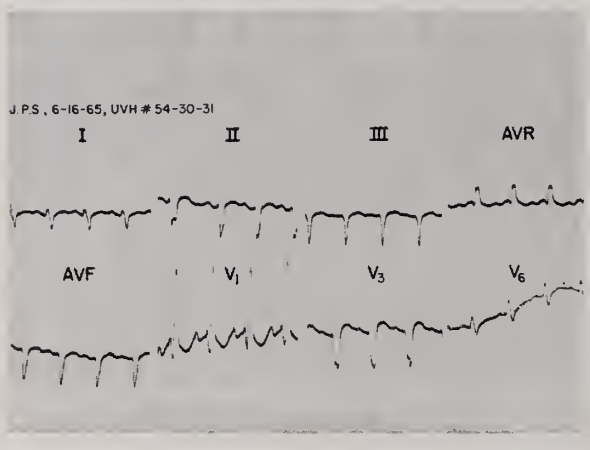


Fig. 2. Electrocardiogram shows a conduction disturbance of the right bundle branch block variety. The tall R′ wave in lead V1 may indicate right ventricular hypertrophy in addition.

Hospital course: On 6/18/65 the patient's cardiac rhythm was paroxysmal atrial tachycardia with 2:1 AV block. This was considered indicative of digitalis intoxication, and sinus rhythm returned after KCL was given intravenously. Antibiotics, bronchodilators and diuretics resulted in less cough, dyspnea and a 6 kg. weight loss. Recurrent wheezing led to the addition of prednisone to this program. On 6/21/65 sputum was considered to be non-purulent. On 6/22/65 the patient was frequently confused, lethargic, and at times combative. There were no localizing neurologic abnormalities, and spinal fluid examination was considered unremarkable. The psychiatry consultant felt the patient's behavior could be explained by a combination of acute emotional disorganization related to hospitalization, the death of a roommate, isolation from his family, and drugs. This picture of continued agitation, confusion and intermittent respiratory distress continued. In the early morning of 6/26/65, he was found without pulse or blood pressure, and resuscitative efforts were unsuccessful.

Clinical Discussion

Dr. Preston B. Lowrance:

A feature of this story which impresses me, if I am interpreting it correctly, is that this patient's heart failure was remittant over a period of several years. There seems to have been some confusion between what may have been genuine asthma for many years, and the development of cardiac dyspnea about four years before his death. If this actually was cardiac dyspnea four years previously, it is remarkable that he improved enough even with treatment to resume heavy farm labor for several more years in the interval. This can be true of the valvular forms of heart disease, but it is unusual for any kind of chronic, progressive cardiac failure. A remission of this sort perhaps suggests coronary heart disease. Several of us have the impression that coronary heart disease is often painless in this race.

The other noteworthy items from the history include the suggestion that there was as much or more "right-sided" heart failure than "left-sided" failure during the final

six-month period, because he developed marked edema without orthopnea or paroxysmal nocturnal dyspnea. The apparent return and increase of "asthma" may have indicated left heart failure as well. He must not have been a very good observer, since he appeared in the Surgical Clinic for repair of a hernia, when his most serious problems were dyspnea and edema.

Physical examination apparently did not show either enough arterial hypertension or retinal vascular change to suggest hypertensive heart disease, which is probably the commonest cause of heart failure to be found in this type of patient in this area. It would be useful to know more blood pressure readings. Also significant for their absence were definite signs of major, chronic, obstructive broncho-pulmonary disease. The rhonchi and rales heard at the lung bases are not of much diagnostic value at this point. The diffuse, parasternal, precordial impulse sounds like right ventricular dilatation and hypertrophy, which is important in placing the location of cardiac damage before trying to decide what caused it. This finding, and possibly the regurgitant murmur in the tricuspid area, do fit in with the concept previously suggested in the history that right heart failure was present. It is helpful to be told that the second sound seemed not to show conspicuous splitting, which would be interpreted as relatively delayed right ventricular emptying and pulmonic closure, which is perhaps most pronounced in atrial septal defect with high pulmonary blood flows. The electrocardiogram, which showed right bundle branch block, requires consideration of atrial septal defect. The tall, secondary R-wave in lead V1 is sometimes said to indicate right ventricular hypertrophy as well as the conduction defect.

The laboratory studies mainly revealed mild abnormalities in the serum proteins and other "liver chemistries". This raises the familiar question of whether a given set of such laboratory abnormalities is due to circulatory congestion of the liver or due to a separate, pathological process involving the liver, which may, itself, be a clue to the cause of damage in the heart. In this connection, a review of liver function abnormalities attributable only to congestive heart failure was made a few years ago.[1] This study showed that all areas of liver function may be damaged by heart failure, including elevations of the serum globulins, and elevations of alkaline phosphatase and the other enzymes. The only correlation of patterns of liver function and cardiac functional disturbance was that the indices of hepatic cellular damage, such as the SGOT and LDH, and of excretory function were more disturbed in acute, right-sided heart failure. The most important part of the laboratory work in what appears to be a cardiac problem is likely to be the x-rays, so it would be well to see these next.

Dr. Theodore E. Keats:

The cardiac enlargement in these films involves all chambers, with the left side being as markedly affected as the right, or more so. There is no pattern of selective chamber enlargement which might permit us to define the cardiac lesion more precisely. There is fluid in the pleural spaces and fissures, and diffuse, pulmonary congestion, indicating left-sided heart failure. Enlargement of the left atrium in the lateral film is probably a result of the same thing. There is also dilatation of the azygous arch on the right side.

There is less vascular congestion at the lung bases than in the upper lobes, a finding seen in heart failure and in mitral valve disease with pulmonary hypertension. Embolic occlusion of pulmonary arteries to the lower lobes could conceivably lead to a similar appearance, but there are no other findings suggesting pulmonary embolism or infarction.

Dr. Lowrance:

The most important thing that these films tell me is that the left ventricle and atrium were as markedly enlarged as the right, and

that the appearance of the lungs was one of left heart failure. I am not sure why a hypertrophied, dilated left ventricle was not felt and identified as such on the physical examination, but there seems to be no question about it on x-rays. This gives us a problem which is affecting both sides of the heart. I suppose that means we should at least consider bilateral cardiac compression from pericardial fluid or other pericardial disease, but there is nothing else to support this idea. Fluoroscopy would have helped on that point.

The course of this patient's illness while he was in the hospital does not seem to provide any important new clues. The arrhythmia responded to conventional treatment for digitalis intoxication, and he seemed to benefit initially from treatment of bronchial infection and spasm. In the absence of information to the contrary, I have to believe that his delirium and other neurological symptoms were due to severe reduction in cardiac output and the other features mentioned in the protocol. The mode of death seems to have been one of intractable dyspnea due more to congestive heart failure than any other kind of "asthma", probably terminated by an arrhythmia.

Several possible causes of these two episodes of congestive heart failure, occurring four years apart, and involving both sides of the heart, have already been suggested. Coronary disease remains likely. Although this would be expected to affect the left side almost entirely and to have been accompanied by pain, right-sided failure eventually occurs. The usual cause of the onset of right bundle branch block in the EKG at this age is probably coronary disease. There were no murmurs described which would represent valvular heart disease as a primary event. In the setting of right-sided heart failure, the murmur which was described to sound like tricuspid regurgitation was probably a secondary, "functional" event. There was no hypertension as a cause of hypertensive heart disease. Whenever congestive heart failure becomes progressive and refractory to treatment, it is likely that pulmonary emboli have been added to the overall cardiovascular problem. Finally, there is an ill-defined group of cardiomyopathies, or "primary myocardial diseases". My accuracy in recognizing these diseases of the heart is low. These include the relatively specific causes in terms of etiology and pathology, such as amyloidosis and hemochromatosis, and in addition many cases simply show an unexplained, diffuse infiltration of the myocardium by fibrous tissue. Whether this is a result of previous inflammation of the myocardium due to viral or other infectious agent is usually unknown. The diagnosis, if made during life, is usually suggested by the kind of process of exclusion which we have just gone through. The most difficult alternative diagnosis is usually painless coronary artery disease, although some kinds of so-called "restrictive" cardiomyopathy[2] may physiologically resemble constrictive pericarditis. In this case during the final episode, the history suggested the simultaneous onset of failure in both ventricles, whereas coronary artery disease should have right heart failure following the left. The precordium in this case was described as active, suggesting chamber dilatation more than restriction by some infiltrative process. Hence, I believe he had a chronic, inflammatory infiltrate diffusely throughout the myocardium, although the cause of this fibrosis is unknown.

Dr. Daniel Mohler:

Could this be carcinoid heart disease?

Dr. Lowrance:

Although carcinoid heart disease has recently been shown to involve the left side occasionally,[3] this patient seems to me to show too much enlargement and failure of the left side for that. What were the students' diagnoses?

Dr. Austin Pearre:

The students gave big majority votes to chronic cor pulmonale due to chronic bron-

chitis and bronchiectasis, primarily on the basis of the long history of asthma. Some raised the possibility of amyloid or other primary myocardial disease, and many considered pulmonary emboli to be a secondary, complicating factor.

Dr. William Hunt:

The blood gases haven't been given enough attention here. He shouldn't have had cor pulmonale due to "asthma" because asthma alone doesn't produce cor pulmonale. He would have to have developed emphysema and ventilatory insufficiency preceding the onset of right heart failure for that to be the case. We know this man did not have that because his arterial oxygen and carbon dioxide tensions were normal. The normal arterial oxygen tension also tends to rule out very extensive pulmonary embolism, with its resulting intrapulmonary right-to-left shunting.

Dr. Lowrance's Diagnosis:

Idiopathic myocardial fibrosis with pulmonary and hepatic congestion.

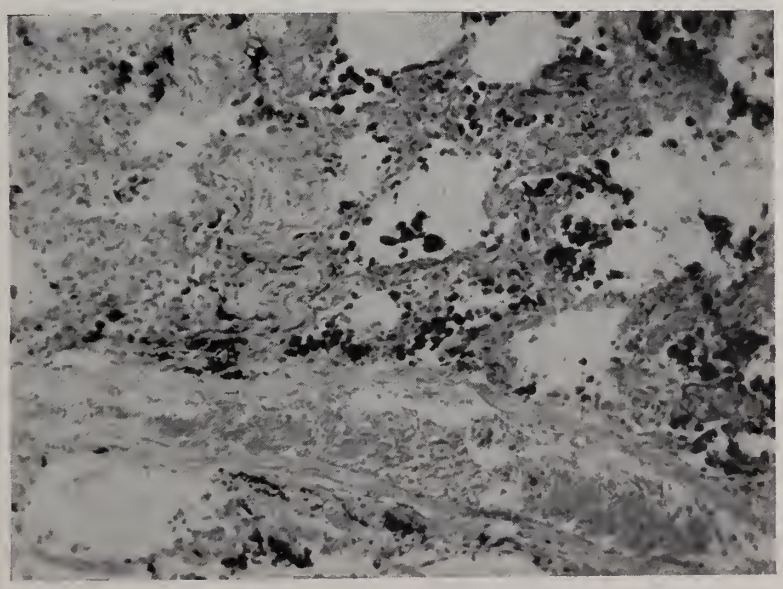


Fig. 3. Congestion of vessels, thickened alveolar walls and collections of siderophages indicate chronic passive congestion of the lungs without there being any changes of primary pulmonary disease. (Gomori's stain for iron, 160X.)

Pathological Discussion

Dr. David E. Smith:

Dr. Lowrance's clear, concise and excellent discussion properly emphasizes the importance of disease of the heart in this case. The respiratory symptoms were related to changes in the lungs that were essentially those of chronic passive congestion and not primary pulmonary disease. The pleural cavities each contained a small amount of fluid, and there were extensive bilateral fibrous adhesions to the pleura and pericardium. The lungs were heavy, homogeneous, firm and of a rusty brown color. There was no emphysema and only a slight amount of chronic bronchitis; so the symptom of dyspnea is to be related to the congested capillaries, thickened alveolar septa and collections of siderophages, all typical of chronic congestion, illustrated in Figure 3. The pulmonary arteries and veins contained no lesions to explain the strange superior intensification of this congestion as seen radiologically, although there were three pulmonary veins on each side.

The heart (Fig. 4) was considerably and symmetrically enlarged to a weight of 750 grams. The myocardium was firm and without gross scars. The coronary arteries contained only a minimum of arteriosclerosis, and all valves were well preserved. The endocardium of the dilated left ventricle

was thickened and opaque. On the epicardium there were fibrous plaques and adhesions, and an organized thrombus was

Fig. 4. The heart is symmetrically enlarged and dilated. The valves and coronary arteries are essentially normal, but fibrosis of both the endocardium and epicardium is grossly apparent.

firmly wedged in the right auricular appendage. In sections of the myocardium (Fig. 5) there were areas of fine, irregular perivascular fibrosis. The endocardial fibrosis was sometimes plaque-like and did not penetrate deeply into the myocardium. The walls of arterioles in the centers of the scars were somewhat hyalin, and the fibrosis extended around individual myocardial fibers that contained distorted nuclei suggestive of hypertrophy. Within the fibrosis there were histiocytes as well as fibroblasts, and the former were sometimes appreciably more numerous than illustrated. A rather granular and amorphous appearance of the perivascular fibrosis (Fig. 6) was suggestive of amyloid, but negative Congo Red and crystal violet stains effectively ruled out any possibility of this diagnosis.

The viscera otherwise contained evidence of chronic congestive failure and rather incidental lesions such as an acute ulcerative esophagitis and several small acute ulcers in the stomach. There was no evidence that death was brought on by anything more than the prolonged effects of the cardiac failure.

There is little that can be said definitely about the etiology of the primary cardiac disease. In the end it is essentially an interstitial, epicardial and endocardial fibrosis, but the histiocytic reaction, slight and undramatic though it may be, leads one to consider this as basically a chronic inflammation. We have interpreted this as a chronic myocarditis, reflecting a presently popular hypothesis. Some of the earliest reports of this condition, such as that of

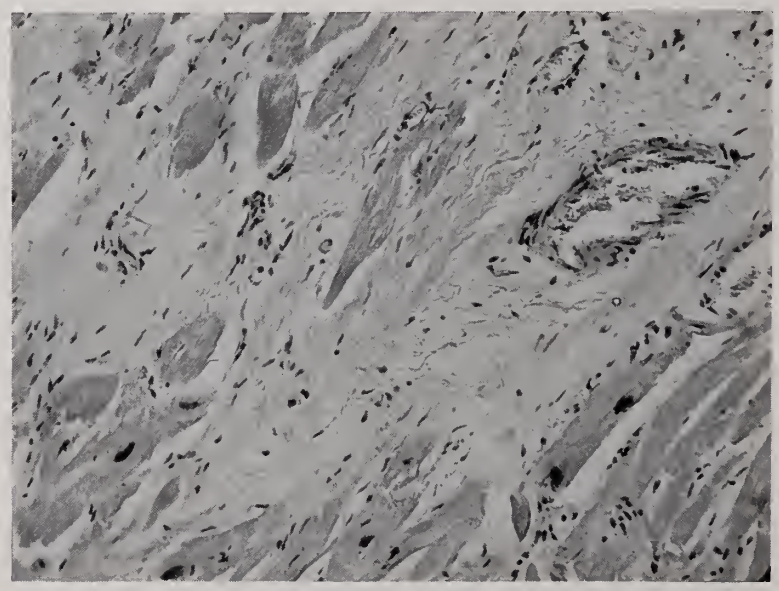


Fig. 5. A fine interstitial fibrosis accompanied by a slight infiltration of histiocytes is present throughout the myocardium and especially concentrated perivascularly. (H&E stain, 160X).

Levy and Von Glahn,[4] described small amounts of cellular infiltration, but dismissed it as incidental to the fibrosis. Later authors[5] have laid more emphasis on the possibility that the fibrosis originates by inflammation in the myocardium. When the encephalomyocarditis virus of monkeys was discovered several years ago, it was expected that there would soon be demonstrations of viral myocarditis in human beings. In rare acute human cases of myocarditis and more commonly in cases of acute pericarditis there has been evidence of infection by some of the Coxsackie viruses and even some strains of ECHO virus. The chronic cases such as this, however, have never, as far as I am aware, yielded a significant etiologic agent.

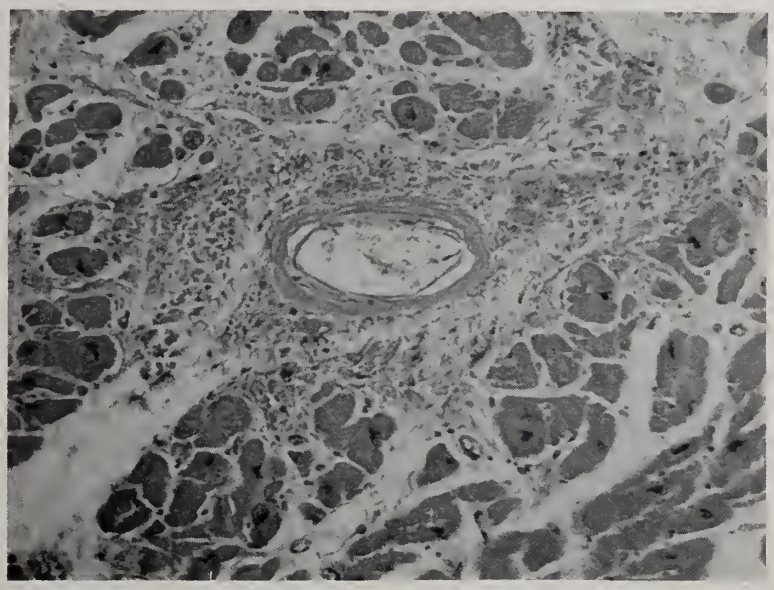


Fig. 6. An amorphous, granular appearance of the perivisculer fibrosis suggests the possibility of amyloidosis, but this diagnosis is ruled by negative special stains. The individual myocardial fibers containtn distorted nuclei and other appearances of hypertrophy. (H&E stain, 160X).

Anatomical Diagnosis:

Chronic myocarditis with epicardial, endocardial and interstitial fibrosis; chronic passive congestion of the lungs and liver.

Editorial Comment: (L. B. McGuire, M.D.)

Dr. Lowrance has referred to the idea that the cardiomyopathies may be classified along the lines of predominant physiologic patterns of disturbance. These include "restrictive" myopathy, which may resemble constrictive pericarditis; "obstructive" overgrowths of cardiac muscle (including subaortic stenosis); and the "infiltrative" kinds, which show primarily diffuse dilatation of the heart and bilateral failure.[2] Today's case would probably be in the latter category. These distinctions may be helpful, and it is easy to remember those exceptional cases which fall clearly into one of these categories, but in general I think it is unusual and difficult to be able to recognize correctly those diseases clinically, as Dr. Lowrance has done with this one. In addition to the possibility of viral infection, alcoholism has been strongly implicated in many of these cases by history, although the mechanism is unknown.[6] A recent, preliminary report describes specific, pathologic changes in the alcoholic cases which are visible only with electron microscopy.[9] In some cases there is a family history of unexplained myocardial disease, suggesting a genetic factor, and in others there may be a skeletal muscular dystrophy as well. The electrocardiogram is usually abnormal, but the conduction defects such as this man showed are so variable and non-specific that I don't consider this as very helpful in the

diagnosis.[7] Studies of the electrocardiogram in right ventricular hypertrophy have shown a fair degree of secondary R′ wave amplitude in lead V1, but this is not consistent nor is it related to the systolic pressure being produced by the right ventricle.[8]

References

1. Richman, S. M., et al.: Liver Function in Congestive Heart Failure. Am. J. Med. 30: 211-225, 1961.
2. Dye, C. L., et al.: Primary Myocardial Disease. I. Clinical Features. Ann. Int. Med. 58: 426, 1963.
3. "Cardiac Murmur, Hepatomegaly, and Diarrhea", a Clinicopathological Conference Discussed by K. R. Crispell, M.D., and others. Va. Med. Monthly 92: 484-493, 1965.
4. Levy, R. L., Von Glahn, W. C.: Cardiac Hypertrophy of Unknown Cause. Am. Heart J. 28: 714-741, 1944.
5. Saphir, O., Cohen, N. A.: Myocarditis in Infancy. Arch. Path. 64: 446-456, 1957.
6. Massuni, R. A., Rios, J. C., Gooch, A. C., et al.: Primary Myocardial Disease: Report of 50 Cases and Review. Circulation 31: 19, 1965.
7. Hollister, R. M., Goodwin, J. F.: The Electrocardiogram in Cardiomyopathy. British Heart J. 25: 357-374, 1963.
8. Human, G. P. Precordial Lead Patterns in Right Ventricular Hypertension. Circulation 30: 562, 1964.
9. Alexander, C. S. Electron Microscopic Changes in Alcoholic Myocardiopathy. Circulation 34: Suppl. III. 42, 1966.

Freedom from Heart Disease

It may be possible to assure a small group of persons between ages 39 and 59 that they won't suffer coronary heart disease for at least 4½ years. This is suggested in a report to the December 12th Journal of the American Medical Association.

The authors say that after studying 3,000 healthy, middle-aged men for 4½ years, they can be reasonably certain of which ones will remain free of heart disease. They hasten to add, however, that the health assessment is not absolutely certain, and that many variables make such health predictions impossible for the general population.

The middle-aged man most likely to remain free of coronary heart disease is one who isn't overly aggressive or ambitious. In addition, this man has low levels of serum cholesterol, triglyceride, and lipoproteins in his blood. These latter three lipids, or fat substances, have been associated with heart disease in many earlier studies.

In 4½ years, there were only three cases of coronary heart disease among 499 men who displayed all of these characteristics. Eighteen cases could have been expected in an average group of men the same age.

"The results of the present study suggest that apparently a relatively small group of persons between the ages of 39 and 59 can receive positive assurance valid for at least 4½ years that they . . . will not incur coronary heart disease."

Persons who have low quantities of lipids, but are less relaxed and more ambitious cannot be given the same assurances. However, these people appear to have two to three times more resistance to heart disease than the average person. No one who is exceptionally aggressive, overly ambitious, or unusually conscious of deadlines, etc., can be given any assurance of freedom from heart disease, no matter what his levels of lipids.

The authors are Ray H. Rosenman, M.D., and Meyer Friedman, M.D., of Mount Zion Hospital and Medical Center, San Francisco; C. David Jenkins, Ph.D., School of Public Health, University of North Carolina, Chapel Hill, and Reuben Straus, M.D., Moses Wurm, M.D., and Robert Kisitchek, M.D., of the Research Laboratories of St. Joseph Hospital, Burbank, Calif.

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Histoplasmosis

A review of this fungous condition which expresses itself in so protean a fashion with its many manifestations may be found in any standard text book on Chest Diseases. However, seldom has a causative agent, as Histoplasma capsulatum, been so fallaciously labelled. Two of the three components in this instance are based on erroneous inferences. While "histo"—is indeed correct, the organism having a special pre-dilection for the histiocytes of the endothelial system—"plasma" mistakenly alludes to its supposed protozoan character; years later the etiologic agent was correctly identified as a fungus. Finally "capsulatum" refers to a "capsule" that does not exist. In microscopic section the protoplasm is shrunken so that the stained space beneath the cell wall has the appearance of a capsule. More truthfully, Histoplasma capsulatum could be called "histo-non-plasmodium non-capsulatum". As might be expected, the original name has stuck.

Infection

While inactive histoplasmosis infection is widespread in some areas there has not as yet been developed any criteria for the administration of prophylaxis. This in spite of the fact that one form of the disease, the chronic reinfection type closely resembling chronic tuberculosis, usually shows calcifications interpreted as the end result of a long antecedent innocuous infection. No definite causal relationship has been established between the two.

The Serologic vs. the Skin Test

It should perhaps be emphasized that the histoplasmin skin test is still used in school or community group surveys, as one would the tuberculin test even though histoplasmin skin test is not only virtually worthless but can give misleading and potentially harmful impressions when employed as an initial diagnostic aid. It tends to interfere with and may destroy the usefulness of the much more significant complement fixation test in the course of differential diagnostic study. That is to say, a single histoplasmin test is currently believed* to raise the titer of the complement fixation test fom a negative or insignificant level to one which might be subject to misinterpretation as being positive.

The same objection applies, of course, to performing both tests on the same day, for often the contribution of complement fixation testing to diagnosis depends upon a rising titer in a series of examinations, and care must be taken that none of the tests be artificially stimulated by a preceding, concurrent or intervening skin test.

There is no objection to using the histoplasmin test after the full potential of the complement fixation test as a diagnostic aid has been utilized.

Histoplasmosis vs. Sarcoidosis

While clinical histoplasmosis must be distinguished from tuberculosis, cancer, leukemia, mononucleosis, Hodgkin's disease, lymphosarcoma, silicosis and other fungous diseases, differential diagnosis between sarcoidosis and histoplasmosis is of critical importance because cortisone is frequently prescribed with benefit for sarcoidosis, it may rapidly cause dissemination of disease if mistakenly prescribed for histoplasmosis.

---

*Serology of Systemic Fungus Diseases. Leo Kaufman, Ph.D., Public Health Reports, 81:2, Feb. 1966.

Histoplasmosis "Mycologically Proved" and Histoplasmosis "Serologically Proved"

The identification of the causative agent in culture from sputum, gastric washings, blood, bone marrow, scrapings from ulcers, and biopsy material, either directly or through inoculation of mice, is considered conclusive proof of diagnosis in "all forms of clinical disease". Also the serological test, when the titer is high, is generally accepted for practical purposes as sufficient for diagnosis, provided the latter is specifically qualified as "serologically proved". Routine testing of admissions to Catawba Sanatorium since 1958 revealed 17 cases of Histoplasmosis proven in the laboratory (culture) and 12 others diagnosed on the basis of complement fixation and skin test.

Concurrent Disease

Not infrequently chronic pulmonary histoplasmosis and pulmonary tuberculosis will co-exist, as sometimes happens with cancer and tuberculosis, cancer and histoplasmosis, et cetera. This possibility should always be borne in mind when the first of two such conditions is identified.

Therapy—Amphoterician B

(An antibiotic originally isolated from soil along the Orinoco River in South America)

Fortunately the majority of acute localized and even disseminated types of clinical histoplasmosis will heal in response to other than specific drug therapy. This, plus the fact that the disease is not directly communicable from person to person, makes it possible to reserve the rather "heroic" drug therapy available to those whose condition is extremely acute, or overwhelming, or relentlessly progressive with cavitation. In the latter, drug therapy may be given to prepare the patient for excisional therapy, which is not infrequently required.

The reason for this "conservative" approach is the fact that up to a certain point the treatment may be worse than the disease. Administration of Amphotericin B can be undertaken successfully only in a hospital. The drug must be given intravenously and usually causes distressing side effects of fever, nausea, et cetera, to say nothing of dangerous complications, which include azotemia.

The drug is usually quite effective, to the extent that it can be tolerated. Seemingly, no anti-amphotericin B resistance is acquired. Because of its toxicity, amphotericin B cannot be given continuously over a long period of time. It is sometimes administered in separate, repeated "courses," of some months each.

Only about one-third of the cases of clinical histoplasmosis at the Medical College of Virginia are treated with specific drug therapy.

Monthly Report of Bureau of Communicable Disease Control

	Dec. 1966	Dec. 1965	Jan.-Dec. 1966	Jan.-Dec. 1965
Brucellosis	8	0	34	9
Diphtheria	0	0	0	0
Hepatitis	56	53	391	780
Measles	61	140	3234	4524
Meningococcal Infections	4	8	75	75
Meningitis (Aseptic)	1	0	31	17
Poliomyelitis	0	0	0	0
Rabies (in animals)	16	29	259	340
Rocky Mt. Spotted Fever	0	1	32	43
Streptococcal Infections	1302	1034	12635	11135
Tularemia	1	1	3	9
Typhoid Fever	0	0	15	9

Mental Health . . . .

EDWIN S. ZOLIK, Ph.D.
JOSEPH R. MARCHES

Prevalence of Mental Health Problems in a Suburban Community

With the exodus to the suburbs in the past decade, increased attention has been directed at this important component of the urban condition. This paper focuses upon the mental health problems of a rapidly growing suburban population. The increasing effort to develop more adequate and comprehensive public mental health programs has increased the need to study the characteristics of this target population in order that orderly and maximally effective programs may be developed. The purpose of this study was twofold: (a) to assess the prevalence of mental health disorders among individuals whose treatment lies primarily in the purview of community agencies, and (b) to compare the prevalence reported for New Haven and Midtown Manhattan with the results obtained for the surburban area involved in this study.

The prevalence of mental health problems in populations exposed to the urban condition have been reported by, among others, Cole, Branch, and Shaw (1956) for Salt Lake City, Lemkau, Tietze, and Cooper (1942, 1943) and Pasamanick, Roberts, Lemkau, and Krueger (1957) for Baltimore. The most dramatic recent treatises on urban mental health are the studies on New Haven (Hollingshead & Redlich, 1958) and Midtown Manhattan (Srole, Langner, Michael, Opler, & Rennie, 1962). These two studies have made it possible to compare two urban centers of markedly contrasting density.

The area encompassed in this study is known as Northern Virginia and constitutes the southern and western suburbs of Metropolitan Washington, D.C. This area covers approximately 500 square miles and has a population of 527,000 persons. In the 1950-60 decade the area experienced a population explosion resulting in a 74% increase in the population. This growth rate shows no signs of abating and correspondingly has put strain on all public services.

Method

Basic statistics reflecting the prevalence of all categories of mental and emotional illness were gathered through a survey conducted during a typical work week of 32 health and social agencies serving Northern Virginia. These agencies, located in Northern Virginia or Washington, D.C., constitute the complex of agencies which either directly or indirectly provide service to residents of this area with mental health problems. Agency personnel completed precoded schedules on all cases serviced during the week judged to be emotionally or mentally ill according to the major diagnostic classification of the American Psychiatric Association. Reports on the same person from more than one source were combined to eliminate duplications resulting from more than one contact during the survey week. Cases (N = 147) for which a diagnosis was not available but which manifested symptoms of an emotional or mental disorder were classified as "Diagnosis undetermined."

This study was supported in part by Grant MH-305-4 from the National Institute of Mental Health, United States Public Health Service.

ZOLIK, EDWIN S., Ph.D., *Chairman, Department of Psychology, De Paul University, Chicago, Illinois.*

MARCHES, JOSEPH R., *National Institute of Mental Health, Bethesda, Maryland.*

Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals, Richmond, Virginia.

The socioeconomic character of the population base served by these agencies corresponds to Hollingshead's Social Classes III, IV, and V. The remaining segments, Classes I and II, essentially come under the attention of private facilities and were not a part of this survey. To describe the area demographically, 89% of the population meets the urban criterion with the distant fringe of Northern Virginia contributing the only rural element. The sex ratio of this population is evenly balanced with 50.1% males and 49.9% females. Thirty-eight per cent is under 19 yr. of age. Racially, nonwhites, principally Negro, make up only 6.5% of the total population but 10.5% of the population served by public agencies.

Results and Discussion

In the course of a typical workweek, the agencies reported contacts with 1,516 persons who were manifesting evidence of mental or emotional disorder. The distribution of the 1,516 reported cases by age, sex, race, and marital status presents some interesting comparisons. While the sex ratio is evenly divided in the general population, males significantly exceed females, almost 2 to 1, with reported mental health problems under the age of 12. Between the ages of 13-18 males outnumber females by 25%. However, after age 18 the situation becomes reversed and females with mental health problems significantly exceed males by almost 2 to 1.[1]

Analysis of the cases by marital status for the adult group over 19 yr. of age indicates that married females exceeded married males by almost two to one.

The data strongly suggest that there are different rates of mental disorder from different age groups and categories of marital status. On the other hand, these differences may be partially influenced by selectivity in referral procedures and sex differences in self-referral. For example, young boys exhibit more aggressive behavior than girls and teachers are apt to refer such boys more readily than dependent girls who may have a mental health problem which is obscured and sheltered by shyness. Similarly, married females may be more mental health and problem conscious than males who might find outlets for tension and anxiety in their occupation. Furthermore, it is possible that males in the middle and lower socioeconomic levels are more resistant to contracting public agencies for assistance except for problems of considerable severity. Studies directed at the analysis of these factors can contribute importantly to community mental health programing.

Figure 1 is a pyramid bar graph which presents, on the basis of the total diagnosed sample (N = 1,369), the percentage of

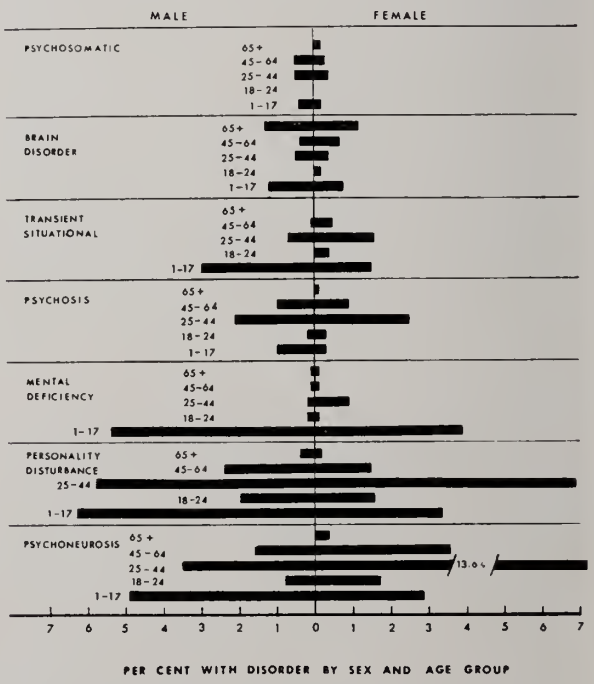


Fig. 1. The percentage of occurrence of each disorder by sex and age group in the survey population (N=1,369) having diagnosis.

occurrence of each disorder by age group and sex. Comparing children with adults, psychoneurosis, psychoses and personality disturbances are more prevalent among adults, while mental deficiency and transient situational diagnoses are more prevalent among children. Among children, the most frequently occurring problems are

1. Tables presenting the distribution of cases by age, sex, race and marital status available from authors upon request.

personality disturbances, mental deficiency, and psychoneurosis, while psychosis has the lowest prevalence. Males under 18 yr. of age significantly outnumber females in such classifications as personality disturbance, mental deficiency, transient situational problems, and psychoneurosis.

A striking sex difference exists in the prevalence of psychoneurosis in the 24 to 44 yr. old group in which females exceeded males more than three to one. However, no significant difference was found between males and females in the same age group having a diagnosis of personality disturbance.

For all problems, mental deficiency appears to be the most age-specific, being reported predominately for children under 17 yr. of age. It appears that after this age mentally deficient individuals are either institutionalized or absorbed in the community with only a small number subsequently being visible. Brain disorder is another age-specific category with maximum prevalence among the aged and secondly among children. The prevalence of brain disorders among the elderly is of further interest because the representation of cases in the 65 and over age group is very small for all other disorders.

Comparative Prevalence Rates

A second purpose of this study was to compare the prevalence rate in this suburban area with those reported for New Haven and Midtown Manhattan. As the latter two studies were based on data from a 1-day survey, comparability was achieved by converting the 5-day data of this study to an average 1-day prevalence.

The prevalence of outpatient or clinic cases for the Northern Virginia suburban community is 107 per 100,000 population and is in between that of the heavily populated Manhattan target area and the medium sized urban community of New Haven. The outpatient clinic prevalence rate for New Haven is 67 and for Midtown Manhattan is 168 per 100,000 population (Srole et al., 1962). These differences are partly due to the differences in available resources in the three communities. Manhattan, e.g., had 2.2 as many clinics as New Haven per 100,000 population. The Northern Virginia study, in addition to outpatient psychiatric clinics, employed a broader reference. Agencies which provided treatment, other mental health services, or psychiatric consultation were included as the study was concerned with an assessment of prevalence in the total public sector and thereby included those agencies. Of major importance in these comparisons is the fact the gross similarities in prevalence rates tend to obtain when necessary adjustments are made for differentials in the available supply of mental health services.

A major finding in this study is the identification of target populations with specific disturbances. Coupled with this was the finding that two-thirds of diagnosed population were being serviced by agencies other than the outpatient mental health clinics. These agencies comprise the complex of agencies responsible for services in the public sector. The identification of the characteristics of the population groups serviced by these agencies is important function in the development of comprehensive mental health centers and the establishment of interrelated service networks.

References

Cole, N. J., Branch, C. H., & Shaw, O. M. Mental Illness: A Survey Assessment of Community Rates, Attitudes, and Adjustments. Paper read at the 105th Annual Meeting of the American Medical Association, Chicago, 1956.

Hollingshead, A. B., & Redlich, F. C., Social Class and Mental Illness. New York: Wiley, 1958.

Lemkau, P. V., Tietze, C. & Cooper, M., Mental Health Problems in an Urban District. Mental Hygiene 1941, 25, 624-646.

Lemkau, P. V., Tietze, C., & Cooper, M., Mental Health Problems in an Urban District. Mental Hygiene 1942, 26, 100-119.

Pasamanick, B., Roberts, D. W., Lemkau, P. V., & Krueger, D. E. A Survey of Mental Disease in an Urban Population. Am. J. Public Health 1957, 47, 923-929.

Srole, L., Langner, T. S., Michael, S. T., Opler, M. K., & Rennie, T. A. C. Mental Health in the Metropolis. New York: McGraw-Hill, 1962. Pp. 127-156.

Diagnostic Laboratory Medicine . . . .

The Technicon Sequential Multiple Analyzer®, 12 Channel (SMA-12)*

The recently introduced SMA-12 is the first of what promises to be a large number of automated instruments for laboratory work.

The SMA-12 will run 12 tests on 3 ml of serum and record the results on precalibrated recorder paper in a bar graph form. Each graph is identified by number, the patient's name is written on the chart, and a photocopy is made and sent to the patient's chart. The range of normal values for each test is shaded so that a quick glance enables one to observe abnormal results.

The SMA-12 is currently available in two models. Both models determine total protein, albumin, calcium, alkaline phosphatase, urea nitrogen, sugar, glutamic oxaloacetic transaminase and total bilirubin. In addition the "hospital" model determines sodium, potassium, chloride, and carbon dioxide, while the "clinical" model determines phosphorus, uric acid, cholesterol, and creatinine.

Ideally, the results obtained with the SMA-12 will be provided sooner, will be more precise, will be less subject to errors, will be cheaper, and in addition will provide more information.

This sounds like "pie in the sky" and it is worth examining the premises on which these claims are based.

The flowing stream method of analysis, as represented by the Autoanalyzer®, in general has equalled or bettered manual methods of analysis in precision (i.e. reproducibility). The SMA-12 should further improve this precision because of (a) a slower rate of analysis, (b) better washout, (3) improved pumps, electronics, etc., and (d) the improved method of standardization. At the beginning of a series of tests, standards are run, and the instrument is set to report correct results on these standards. Thereafter a standard is introduced in every tenth place and the instrument is readjusted to yield the correct values. If there is excessive variability in any standard test result, operations are suspended while the cause of the problem is located.

Although precision should be improved, the question of accuracy is still not resolved. The standards must be double checked and adjusted if necessary. The methods themselves are not all fully satisfactory since lipemia, dextran, excessive hemolysis, and hyperbilirubinemia (above 6 mg%) can interfere with one or more tests. A visual screening will eliminate most of these. High levels of phenols could interfere with the alkaline phosphatase determination, and this is always a possibility in uremic patients.

There is some question about the normal values as represented by the shaded areas. For example, the indicated normal for calcium is 9.0 to 11.4 mg%. A more realistic range would be 8.8 to 11.0 mg%. Also the normal range for the alkaline phosphatase should be extended to 17 King Armstrong units instead of the 12 indicated. (This latter change is being made on new printings of the graph paper.)

The SMA-12 runs specimens at the rate of 30 per hour. After adjustment for standards, the effective rate is 25 to 27 per hour. While this is a slower rate than some of the autoanalyzers currently in use, the time saved in splitting and routing the serum, in clerical work, in calculating the results, etc., more than offsets this deficiency.

*Sequential Multiple Analyzer and Autoanalyzer are trademarks of Technicon Instruments Corporation.

The number of errors that can occur in a procedure depends upon the number of operations that are performed. Each pipetting, transcribing of names or numbers, instrumental reading, or calculation represents a potential source of error. For example, in the Folin-Wu method for sugars there are seven pipettings plus one dilution, in addition to the associated calculations and clerical work. To run all 12 tests would introduce about 100 chances for error. With the SMA-12 there are no pipettings, calculations, nor instrument readings to be recorded. The tube of blood must be identified when drawn, one worksheet must be prepared, and the patient's name must be written on the chart. Even if only one test is ordered, the chance for error is greatly reduced.

Only preliminary figures on cost are currently available. The final figure will depend on the number of tests run and on the breakdown time. One estimate of $9.00 per specimen includes prorated rent and administrative costs, and the cost of drawing and processing the blood, as well as the instrumental, reagent, and technician time costs. Current costs of the latter three items at M.C.V. are about $4.20 a specimen. Doubling the number of specimens run would drop these costs below $2.50.

In order for this system to work with maximum efficiency and at least cost, an adequate volume of blood must be received in the laboratory early enough to enable the results to be finished and sent back during the working day. If most of the specimens can be run on the SMA-12, then the lessening of the workload in the other areas of the chemistry laboratory should allow better service from these areas.

Future Prospects: A considerable amount of work is being done to completely automate this system. Systems are under development which include automatic sample identification and print out. In one such system, a punched card is attached to the specimen when the blood is drawn and stays with the specimen; when it is introduced into the SMA-12 the card is electronically read, and the sample and patient identification are printed along with the results. Eventually it is expected that all results will be stored in a computer, and will be quickly available to the medical staff.

ROBERT L. LYNCH, M.S.

Division of Clinical Pathology
Medical College of Virginia
Richmond, Virginia

President's Message . . . .

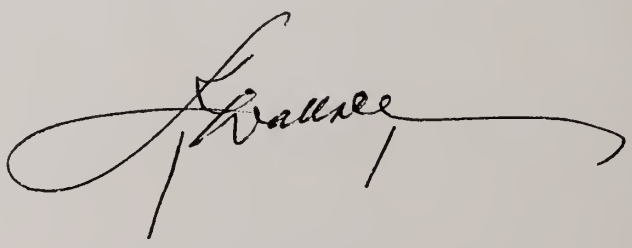
SINCE OUR LAST MESSAGE much has transpired, some of it good, some of it not so good.

Among other things, Congress has reconvened and we can expect changes in the Medicare Act in spite of the fact that Liberals didn't do at all well at the hustings. Recently announced polls continued to show that we are still the most popular people; so let's lead from strength, for politicians realize that they should listen to us now.

We are deep in reflection concerning Title XIX. It will mean more "guide lines" and Federal non-medical interference. If you have any thoughts or convictions on this subject please pass them on to us. An active energetic committee has been assigned the task of studying this topic. We hope that we can come up with some constructive answers.

Among others a pet project has been creating rapport between the society and the hospital administrators. Both sides are welcoming this reapproachment. A blue-ribbon group (Mr. Howard and I are really proud of these people) has been chosen to represent us. We are not misled. They promptly went to work and we are quite pleased at the accomplishments that have already resulted.

A subject that has recently been given considerable publicity and concern is air-pollution. Here we can be in the forefront and take the initiative. Too often medicine has waited until things have been finally accomplished facts and then relegated into a reactionary role if at all cautious. The committee handling this for us is enthusiastic, energetic and dedicated. We can expect great things from this group; they have already shown us they mean business. Our physician-image can only gain and muchly so through this connection.



K. K. Wallace, M.D.
President, The Medical Society of Virginia

Editorial . . . .

The Distal Esophagogastric Closing Mechanism

THE GUT'S SPHINCTERS command our increasing respect the more we know about them, from the proximal esophageal sphincter, which opens in response to the pharyngeal phase of swallowing and which immediately shuts tight following the passage of ingesta, to that marvelously capable structure which can differentiate liquid, solid, and gas, at the other end.

The giant strides of thoracic surgery and anesthesia demanded that our knowledge of esophageal physiology keep pace. The first survivors of atresia of the esophagus now only approaching early adulthood attest the youth of esophageal surgery.

Only recently have the mysteries of the closing mechanism at the lower end of the esophagus begun to command serious interest. What comprises this mechanism that allows the trapeze artist to be suspended by his feet with no gastroesophageal regurgitation and yet to swallow uphill still with no incompetency? The times when the diaphragmatic pinchcock alone was adequate to explain this behavior are gone. The thickened crural margins of the diaphragmatic hiatus are at best an accessory mechanism to keep the cardial (the segment of transition from tubular esophagus to saccular stomach) in its natural place below the diaphragm, which seems so important for the competency of the closing mechanism, especially when the pressure differential between thorax and abdomen is maximal, such as during weight-lifting, bowel movements and the like. The phrenoesophageal membrane, rich in collagen and elastic fibers, is even more important as a restraining mechanism; when these fibers atrophy from age and from abuse they allow a greater range of movement between the diaphragm and the cardia until eventually a sliding hiatal hernia is produced.

The acute angle between the fundus of the stomach and the entering esophagus also must be of secondary importance: obliteration of this angle, as by a pneumoperitoneum, does not cause insufficiency.

No such muscle as the constrictor cardiae has ever been satisfactorily identified.

A mucosal valve or some sort of flap mechanism would explain many features of the closing mechanism, but demonstration of such valves either in life or in death is inconstant.

A well developed muscle tract, derived from the internal oblique layer

of the stomach, sitting astride the cardial incisura like an inverted "U," is likely to have some role in maintaining the approximation of the cardia.

The lower few centimeters of esophagus, the esophagogastric vestibule, are characterized radiologically by a prominent rugosity which presents as a cardial rosette at surgery. These rugae, covered by a thin layer of mucus, can provide a gas-tight barrier between esophagus and stomach, but only in the cardia that has been closed by some other mechanism.

The presence of an abdominal segment of esophagus, subjected to the higher abdominal pressures than the thoracic esophagus, may be a factor in the efficient closing mechanism, just like a collapsible tube going from a compartment of low pressure (the chest) to one of high pressure (the abdomen).

The component of the closing mechanism most in vogue today is the gastroesophageal sphincter, a segment of high pressure coexistent with the lower few centimeters of the esophagus, elaborated with manometric methods largely by Code and his coworkers at the Mayo Clinic a few years ago. This physiologic sphincter, with no anatomic counterpart, has the remarkable property of relaxing as soon as the act of swallowing has been begun, and of remaining relaxed until the peristaltic wave from above has arrived. When the lower esophagus is displaced orad, as in a sliding hiatal hernia, the sphincter operates in a medium of low pressure, the thorax, and receives no boost here as it did in the abdomen with its higher pressure; the displaced sphincter thus often becomes insufficient in the presence of a hiatal hernia, permitting gastroesophageal reflux, a precursor of peptic esophagitis.

Several considerations suggest to us that the gastroesophageal sphincter of the clinical physiologist is not the sole component in the closing mechanism, and possibly not even the most important one: The Heller operation, a muscle-splitting operation for the relief of achalasia, may reduce the intraluminal pressure to zero, and yet the closing mechanism may remain reasonably competent; infants have a competent closing mechanism despite momentary breaches, but have little or no manometrically determinable sphincter; it is the daily experience of radiologists that the closing mechanism can be competent during swallowing even when the cardia is well below the fluid level in the stomach: since swallowing relaxes the sphincter, practically constant regurgitation would be expected under such conditions if the gastroesophageal sphincter were the only factor operating in the distal esophagogastric closing mechanism.

Christian V. Cimmino, M.D.

The South and Tommy Atkins

For it's Tommy this, an' Tommy that, an' "Chuck him
out, the brute!"
But it's "Saviour of 'is country" when the guns begin to
shoot;
An' it's Tommy this, an' Tommy that, an' anything you
please;
An' Tommy ain't a bloomin' fool—you bet that Tommy
sees!

RUDYARD KIPLING

THIS SUBJECT, perhaps, is a little removed from the usual run of medical matters but there is a certain justification for this article, for the casualties that filter through from Vietnam represent fellow-Americans who are treated by our medical officers and corpsmen. Another and broader aspects of our present war concerns physicians and laymen alike in that we are becoming increasingly skeptical of any statement that is issued by our present Administration in Washington. We are aware that military matters are necessary in order to mislead the enemy, but deliberate misrepresentations by our high officials for the purpose of deceiving our fellow-countrymen are inexcusable, and this has now become standard practice.

During the past few months the question has arisen more than once with regard to the higher percentage of Southern servicemen who have died in Vietnam as compared with losses throughout the country generally. The Defense Department has stated that there has been no material difference, and the relatively greater number of men from Southern addresses were due to service families who remained near Southern camps after the servicemen were sent overseas. Inasmuch as training camps are not confined to the South, we must assume that northern families continue to remain below the Mason and Dixon line and add to our total, whereas Southern families leave from western and northern camps as soon as their husbands depart for combat duty. Doubtless many temporarily displaced Southerners are happy to return to their home states and it is equally understandable, after one travels northward, why many of our northern friends choose to remain in the South, but in spite of all this it still appears to be a little too pat to explain the difference.

An AP item a few days ago carried a Defense Department list of 10 servicemen killed in action and three additional men who died from non-hostile action in Vietnam. The 13 servicemen were listed by name, address and the next of kin. Twelve lived South of the Potomac River. Five men were unmarried and the next of kin consisted of parents, brothers or sisters. By no stretch of the imagination were these relatives waiting at a camp until the serviceman returned. Everyone of the thirteen servicemen had surnames that originated in the British Isles, which may, or many not have been pertinent, but these names are found traditionally to a greater degree in the South.

The home addresses of those killed in action on one day were listed as follows: Mobile, Alabama; Greenbrier, Arkansas; DeLand, Florida; Fort Benning, Georgia; Tompkinsville, Kentucky; Aberdeen, Mississippi; Bonneau, South Carolina; Franklin, Tennessee; Corpus Christi, Texas; and Tyler, North Carolina. The home address of the non-hostile deaths were: Sudbury, Massachusetts; Jacksonville, North Carolina; and Norfolk, Virginia. Possibly three of the entire group had wives who were temporarily living near a camp.

Admittedly the majority of Defense Department listings are more representative of other sections of the country than the example pointed out in this item. But it must be realized that less than one-fourth of the population of this country live in the South. Despite this disproportion the South has carried a greater share of the burden in every war that this country has engaged in, and the military leadership could also be included from General Washington in the American Revolution to General Westmoreland, of South Carolina, in Vietnam. The present conflict is no exception.

We do not read of draft card burning or anti-war student riots in the South. These activities are confined to the land of our critics. There must be a greater percentage of volunteers or draftees or servicemen from this area of the country who find their way into combat zones from the simple figures that appear in the casualty lists. It is unlikely that our men are more accident prone than those who live to the west or the north.

The politicians in Washington should realize and appreciate that this section of the country is playing its usual and disproportionate role in Vietnam. Thus far there has been no evidence of this awareness. In fact it is quite the opposite. The Southern States continue to be the national whipping boy in order that politicians may ingratiate themselves throughout the remainder of the country. The State of Virginia has Federal agents to supervise our elections, not because of any wrongdoing on our part, but solely because an insufficient number of our citizens went to the trouble to visit the polls on a specific date. The percentages were then determined in order that Virginia would be enmeshed whereas the home state of the Maverick of the Pedernales was excluded.

The verse by Kipling is true in a sense, but woefully out of date if we substitute the Southern States for "Tommy". For the "Saviour of 'is country" is abused during wartime as well as peacetime for political purposes. But we can hope, at least, that we too have Tommy's perception and we can identify and will remember our tormentors.

H.J.W.

News . . . .

Calendar of Events

The Dehydrated Baby—Petersburg General Hospital—Petersburg—February 20, 1967.

Virginia Academy of General Practice—Annual Meeting—The Homestead—Hot Springs—March 2-5, 1967.

Virginia Diabetes Association—Symposium on Endocrinology in General Practice The Homestead—Hot Springs—March 2, 1967.

Symposium on Radiology of the Chest—Sponsored by Department of Radiology, Medical College of Virginia—Conference Center, Williamsburg—March 4-8, 1967.

Seminar on Burns—Petersburg General Hospital—Petersburg—March 6, 1967.

National Medico-Legal Symposium—Fontainebleau Hotel—Miami Beach, Florida —March 9-11, 1967—Jointly sponsored by American Bar Association and American Medical Association.

National Conference on Rural Health—Queen Charlotte Hotel—Charlotte, North Carolina—March 10-11, 1967.

Seminar on Emphysema—Petersburg General Hospital—Petersburg—March 20, 1967.

Stoneburner Lectureship: Clinical Pharmacology and Therapeutics—Dr. Stewart G. Wolf, Oklahoma, Lecturer—Medical College of Virginia—Richmond —March 30-31, 1967.

Annual Clinical Conference—Louise Obici Memorial Hospital—Suffolk—April 5, 1967.

Post Graduate Course on "The Newborn Infant—1967"—University of Virginia School of Medicine—Charlottesville—April 7-8, 1967.
Guest Faculty includes Dr. C. A. Smith, Boston, and Dr. W. W. Wheeler, University of Kentucky.

Second Virginia Congress on Mental Health and Illness—John Marshall Hotel —Richmond—April 14-15, 1967.

Virginia Society of Anesthesiologists—4th Annual Meeting and Scientific Symposium—Sheraton Motor Inn—Richmond—April 14-16, 1967.

National Congress on Environmental Health Management—Americana Hotel —New York—April 24-26, 1967.

Tenth Annual Joint Cardiac Symposium—Sponsored by Heart Association of Northern Virginia and Washington Heart Association—Marriott Twin Bridges Motor Hotel—Arlington—April 27, 1967.

Medicine and Religion Symposium—Sponsored by AMA Department of Medicine and Religion, University of North Carolina School of Medicine and Medical Society of the State of North Carolina—Chapel Hill, North Carolina—June 11-13, 1967.

The Gill Memorial Eye, Ear and Throat Hospital

Roanoke, Virginia

ANNOUNCES TO THE PROFESSION

THE

ANNUAL SPRING CONGRESS

IN

OPHTHALMOLOGY AND OTOLARYNGOLOGY

HELD IN MEMORIUM TO DR. ELBYRNE GRADY GILL ON ITS FORTIETH ANNIVERSARY

APRIL 3 THROUGH APRIL 7, 1967

SIDNEY N. BUSIS, M.D.
Pittsburgh, Pennsylvania

WEBB CHAMBERLAIN, M.D.
Cleveland, Ohio

JERRIE CHERRY, M.D.
Baltimore, Maryland

MICHAEL E. DE BAKEY, M.D.
Houston, Texas

RAYMOND L. HILSINGER, M.D.
Cincinnati, Ohio

WENDELL L. HUGHES, M.D.
Hempstead, New York

R. TOWNLEY PATON, M.D.
Southampton, New York

GUS A. PETERS, M.D.
Rochester, Minnesota

FRANK N. RITTER, M.D.
Ann Arbor, Michigan

A. D. RUEDEMANN, M.D.
Detroit, Michigan

JOSEPH A. C. WADSWORTH, M.D.
Durham, North Carolina

PAUL WARD, M.D.
Nashville, Tennessee

ROBERT C. WELSH, M.D.
Miami, Florida

FOR FURTHER INFORMATION WRITE:
SUPERINTENDENT, P.O. BOX 1789, ROANOKE, VIRGINIA

STUART CIRCLE HOSPITAL

413-21 STUART CIRCLE RICHMOND, VIRGINIA

Medicine:
MANFRED CALL, III, M.D.
ALEXANDER G. BROWN, III, M.D.
JOHN D. CALL, M.D.
WYNDHAM B. BLANTON, JR., M.D.
FRANK M. BLANTON, M.D.
WILLIAM W. MARTIN, JR., M.D.

Obstetrics and Gynecology:
WM. DURWOOD SUGGS, M.D.
SPOTSWOOD ROBINS, M.D.
DAVID C. FORREST, M.D.
JOSEPH C. PARKER, M.D.
WILLIAM M. OPPENHIMER, M.D.

Orthopedics:
BEVERLEY B. CLARY, M.D.
JAMES B. DALTON, JR., M.D.
FRANKLIN P. WATKINS, M.D.

Pediatrics:
EDWARD G. DAVIS, JR., M.D.
THOMAS P. OVERTON, M.D.
EDWARD J. WILEY, M.D.

Ophthalmology, Otolaryngology:
J. WARREN MONTAGUE, M.D.

Anesthesiology:
WILLIAM B. MONCURE, M.D.
HETH OWEN, JR., M.D.

Surgery:
A. STEPHENS GRAHAM, M.D.
CHARLES R. ROBINS, JR., M.D.
CARRINGTON WILLIAMS, M.D.
RICHARD A. MICHAUX, M.D.
CARRINGTON WILLIAMS, JR., M.D.
ARMISTEAD M. WILLIAMS, M.D.

Urological Surgery:
FRANK POLE, M.D.
HARRY S. ROWLAND, JR., M.D.

Oral Surgery:
GUY R. HARRISON, D.D.S.

Physical Therapy
JACQUELYN F. PEARMAN, R.P.T.

Plastic Surgery:
HUNTER S. JACKSON, M.D.

Roentgenology and Radiology:
HUNTER B. FRISCHKORN, JR., M.D.
WILLIAM C. BARR, M.D.
JAMES W. PROFFITT, M.D.

Pathology:
JAMES B. ROBERTS, M.D.

Director:
CHARLES C. HOUGH

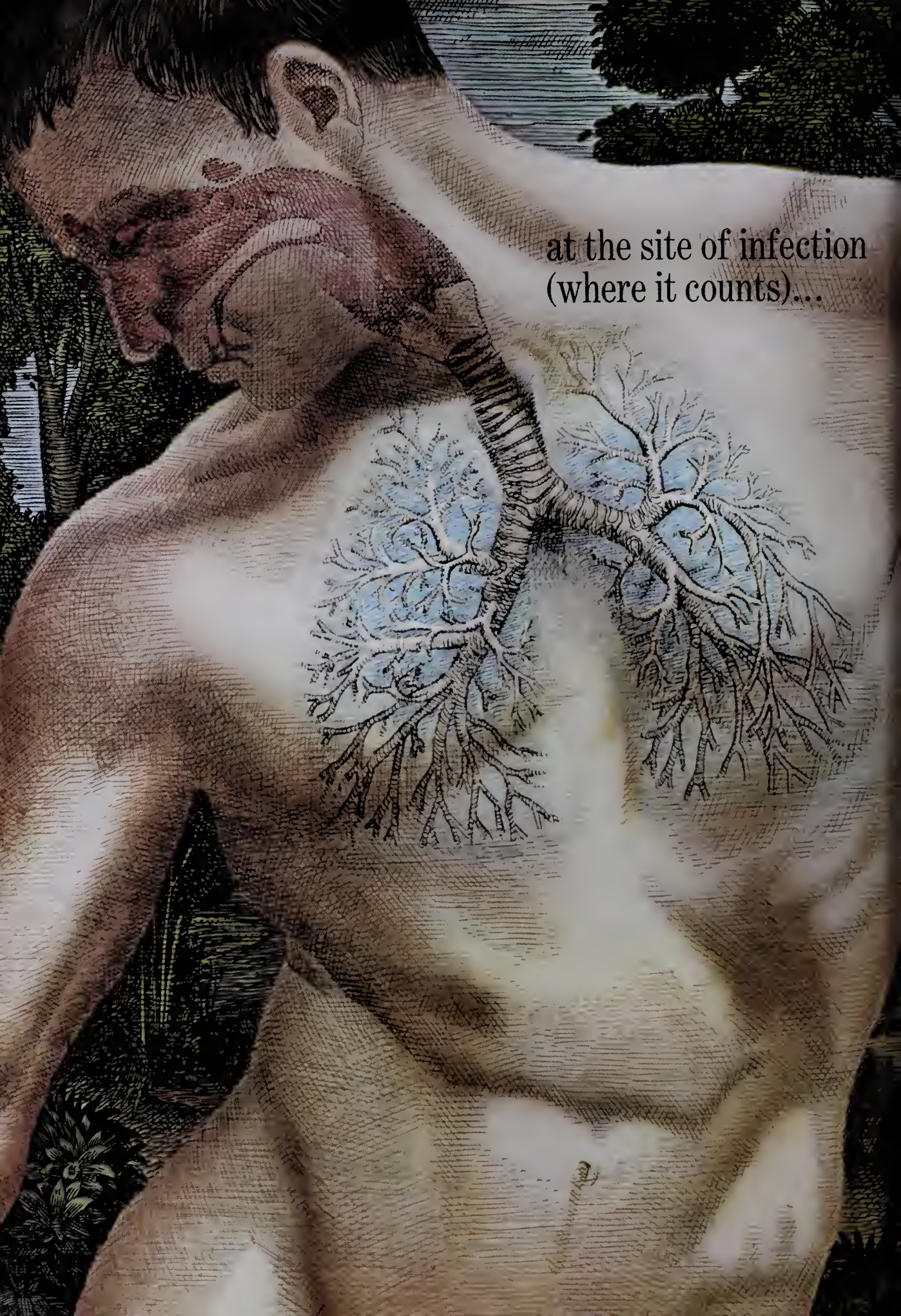
"Yes, Doctor, the pain is gone."

■ Despite introduction of synthetic substitutes, efficacy of 'Empirin' Compound with Codeine remains unchallenged.

'Empirin'® Compound with Codeine Phosphate gr. ½ No. 3
Each tablet contains: Codeine Phosphate gr. ½ (Warning—May be habit forming), Phenacetin gr. 2½, Aspirin gr. 3½, Caffeine gr. ½.

Keeps the Promise of Pain Relief

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N. Y.


at the site of infection
(where it counts)...

Ilosone® provides more antibacterial activity than any other oral erythromycin

Acid stable, better absorbed ... Ilosone produces faster, higher, more prolonged blood levels, even in the presence of food[1-3]

Because it is the most active form of oral erythromycin, Ilosone can help assure consistently greater antibacterial activity at the site of infection. Ilosone produces peak antibacterial blood levels two to four times those of other erythromycin preparations.[1,2] Not only are these levels attained earlier, but they are maintained for much longer periods. Even the presence of food does not seem to affect the activity of Ilosone.[1,3]

In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

700121

Ilosone®
Erythromycin Estolate

Lilly

(See next page for prescribing information.)

Ilosone®/the most active oral form of erythromycin

Description: Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

Indications: Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone.

Contraindications: Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with preexisting liver disease or dysfunction.

Side-Effects: Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have appeared in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly if the drug is readministered to sensitive patients, usually within forty-eight hours. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to be definitely related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalin flocculation and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has not been reported in other patients taking prolonged courses of the medication. Patients with chronic infection have been given 1 to 2 Gm. of the drug daily for periods of two to six months, and patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of these patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels were determined in a group of fifty-four adults and children who took 250 mg. of Ilosone daily for an average of sixteen months as rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevations of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (ten-day) courses of Ilosone in the treatment of streptococcus infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticaria, skin eruptions, and, on rare occasions, anaphylaxis.

Administration and Dosage: Ilosone is administered orally.

Ilosone Pulvules®
Ilosone Chewable Tablets
Ilosone Drops
Ilosone, 125, for Oral Suspension

For infants and for children under twenty-five pounds of body weight, the usual dosage is 5 mg. per pound every six hours; for children twenty-five to fifty pounds, 125 mg. every six hours. (Tablets Ilosone Chewable should be chewed or crushed and swallowed with water.)

For adults and for children over fifty pounds, the usual dosage of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage is 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days are recommended. In the treatment of gonorrhea, patients with a suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

How Supplied: Pulvules Ilosone, Capsules, N.F., 125 and 250 mg. (equivalent to base), in bottles of 24 and 100.

Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to base), in bottles of 50.

Ilosone Drops, 5 mg. (equivalent to base) per drop, in 10-cc.-size packages, with dropper calibrated at 25 and 50 mg.

Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size packages.

References: 1. Griffith, R. S., and Black, H. R.: Am. J. M. Sc., *247*:69, 196. 2. Griffith, R. S., and Black, H. R.: Antibiotics & Chemother., *12*:398, 196. 3. Hirsch, H. A., Pryles, C. V., and Finland, M.: Am. J. M. Sc., *239*:198, 1960.

Additional information available to physicians upon request.
Eli Lilly and Company, Indianapolis, Indiana 46206.

Lilly

70012

New Members.

The following members were received into The Medical Society of Virginia during the month of December:

B. Ray Ashby, M.D., Charlottesville
Robert Eugene Beatley, M.D., Reedville
Winston Murphy Bryant, M.D., Portsmouth
Anthony Abraham Deep, M.D., Richmond
William S. Erwin, Jr., M.D., Roanoke
Guilermo E. Espejo, M.D., Norfolk
Thomas Alexander Freed, M.D., Richmond
Philip H. Hanock, M.D., Newport News
Arnold J. Kaplin, M.D., Alexandria
William Robert Lamb, M.D., Richmond
Walter Lawrence, Jr., M.D., Richmond
Manuel Ramos Martinez, M.D., Manassas
James Douglas McDowall, M.D., Fairfax
Lawrence Russell Moter, M.D., Fredericksburg
Duncan Shaw Owen, Jr., M.D., Richmond
Henry W. Pribram, M.D., Richmond
Marion Charles Restivo, M.D., Alexandria
Richard Terrell Wade, M.D., Lynchburg
James Robert Wickham, M.D., Richmond

Richmond Academy of Medicine.

Dr. William H. Higgins, Jr., has succeeded Dr. Carl W. Meador as president of the Academy. Dr. Earnest B. Carpenter is president-elect; Drs. Emmett C. Mathews and William T. Tucker, vice-presidents; Dr. Richard W. Dodd, recording secretary; and Dr. John A. Rawls, sergeant-at-arms.

Fredericksburg Medical Society.

Dr. William J. Hollister has been elected president of this Society, succeeding Dr. William D. Liddle. Dr. C. J. Robins was named president-elect and Dr. Liddle secretary-treasurer.

These doctors also serve in the same capacity as members of the Mary Washington Hospital Medical Staff.

Dr. Carrington Williams, Jr.,

Richmond, has been elected chairman of the Section on Surgery of the Southern Medical Association.

Dr. David S. Garner,

Roanoke, has been appointed as Staff Physician at the Veterans Administration Hospital. He recently retired as Medical Director of the Shenandoah Life Insurance Company.

New Health Directors.

The State Department of Health has announced the appointment of three new health directors.

Dr. William H. Bandy will be director of the Colonial Health District which includes Williamsburg and the counties of Charles City, James City, York and New Kent. He succeeds Dr. H. E. Gillespie who was recently appointed director of special health services.

Dr. Herbert C. Coone was named director of the Prince William County Health Department. He succeeds A. F. Scheele who is now director of Region 6 of local health services.

Dr. Joseph J. Dobkin will be assistant director for Fairfax County and the cities of Falls Church and Fairfax.

Dr. Michael J. Moore,

Roanoke, is one of the winners of a Certificate of Awards for outstanding articles in the 1966 Medical Economics Awards Campaign.

Associates Wanted.

General Practitioner, Richmond, Virginia, environs. Some surgery optional. Guaranteed salary with percentage leading

to partnership or expense sharing arrangement. Need a second semi-retired physician also. Send curriculum vitae to #80, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Office Space Available

In a professional building suitable for a specialty or general practice. In the Northern Virginia area of Manassas. The offices are located next to the Prince William County Hospital in an area where there is a practice opportunity for all branches of medicine. For further information call Miss Juanita Sibold at 703-368-8166. (*Adv.*)

Obituaries . . . .

Dr. Early Beauregard Dovell,

Unionville, died November 19th at the age of eighty-three. He was a graduate in medicine from the University of Louisville in 1912 and practiced for some time in West Virginia. He had practiced in Orange County for thirty years. Dr. Dovell served as a Captain in the Medical Corps during World War I. He had been a member of The Medical Society of Virginia for twenty-nine years.

Three brothers and a sister survive him.

Dr. John Gregory Kroll,

Associate Professor of Radiology at the University of Virginia, died November 25th. He was fifty-three years of age and received his medical degree from the University of Maryland in 1942. Dr. Kroll came to the University in 1947 for graduate training in radiology and joined the faculty in 1949. He was Counselor for Virginia in the Radiological Society of North America and was a fellow of the American College of Radiology. Dr. Kroll had been a member of The Medical Society of Virginia since 1949.

His wife and a daughter survive him.

Dr. Hans Boehmer

Norfolk, died December 10th at the age of thirty-nine. A native of Germany, he had lived in the Norfolk and Virginia Beach area for the past eight years and was a pathologist at the Leigh Memorial Hospital. Dr. Boehmer was a member of The Medical Society of Virginia.

His wife and two sons survive him.

Dr. Burke.

Antonio Austin Burke, M.D., January 20, 1888-August 12, 1966, a native of Petersburg, was the son of Dr. Joseph M. Burke and Maria Harrington Burke. After graduation from the Medical College of Virginia in 1910, and an internship at St. Vincent's (DePaul) Hospital, Norfolk, he took a residency at Brooklyn Eye and Ear Hospital, Brooklyn, New York.

He entered private practice of Ophthalmology and Otolaryngology in 1913, in Norfolk, being associated with Dr. Wilson E. Driver for the first seven years. He retired in 1960.

Dr. Burke was a member of the Staffs of DePaul, Norfolk General, Leigh Memorial and U. S. Public Health Hospitals in Norfolk, Virginia Beach Hospital, Virginia Beach and Maryview Hospital in Portsmouth. He was a member of the Norfolk County Medical Society, Seaboard Medical Society, Virginia Society of Ophthalmology and Otolaryngology and The Medical Society of Virginia.

He was Ophthalmologist for the Norfolk and Western Railroad, Seaboard and Norfolk-Southern Railroads.

Dr. Burke was a member of the Norfolk Lions Club, where for over thirty years, he gave his pro-

fessional services, without compensation, to children who needed eye treatment and glasses. A similar service was given at St. Mary's Infant Home.

He served on the Draft Boards of World Wars I and II.

In 1960, the Alumni of the Medical College of Virginia awarded him the Half Century Medal.

Dr. Burke is survived by his wife, a son and a daughter.

Dr. Burke, known as "Tony" by many friends had a cheery and sunny disposition. He enjoyed life and transmitted these amiable personal qualities to those around him. He was kind and sympathetic with his patients. Throughout his long professional career, he treated all who came for help regardless of the ability to pay. Such professional service was extensive in the 1930's and with many clinic services in later years.

Tony Burke served his community with justifiable pride and professional skill. His many friends will long remember him.

Resolved, that these words, in memory of our respected colleague, be recorded in the minutes of the Norfolk County Medical Society and copies sent to the Medical Society of Virginia and to his family.

Carl C. Cooley, M.D.
Beverly R. Kennon, III, M.D.
Mallory S. Andrews, M.D., *Chairman*

Dr. Crumpler.

Dr. Lawrence O. Crumpler departed this life September 20, 1966, after an illness of several years duration.

Dr. Crumpler was born October 20, 1891, in Clinton, North Carolina, the son of Abner Blackman and Jane Underwood Crumpler. He received his premedical education at the University of North Carolina and in 1916 was awarded the M.D. degree from the Medical College of Virginia. He was engaged actively in the practice of medicine in Danville from 1916 until his retirement in 1962. In 1918 he was appointed Medical Director of the Dan River Mills, a position which he held in addition to a busy practice of medicine and surgery for 43 years.

In addition to membership in this Danville-Pittsylvania Academy of Medicine and the American Medical Association, he held a Fellowship in the American College of Surgeons. He was a member of the Mount Vernon Methodist Church and the Danville Golf Club.

He is survived by his widow, two daughters, his sister and eight grandchildren.

Whereas, Dr. Crumpler in his long professional service has earned the affection of a wide circle of friends and through his family has contributed richly to the cultural life of this community, and

Whereas, he has for many years been a valued member of this body,

Now therefore be it resolved that the family of Dr. Crumpler be extended the sympathy of the Academy at his loss and that this resolution be made a part of our permanent record.

D. Lurton Arey, M.D.
J. D. Beale, Jr., M.D.

Dr. Pritchett.

Dr. Harry Wooding Pritchett, a valued member of the Danville-Pittsylvania Academy of Medicine, departed this life April 24, 1966.

Dr. Pritchett was born in Pittsylvania County, July 11, 1889. He received his early schooling in the Pittsylvania County schools; his pre-medical education at the College of William and Mary and the University of Virginia; and in 1919 received his M.D. degree from Tulane University. After internship at Mt. Sinai Hospital, Cleveland, Ohio, he returned to Pittsylvania County and practiced at Whitmell until 1929 when he moved to Danville as an associate with the late Dr. C. W. Pritchett, in the practice of general medicine. He remained in active practice until a few months before his death.

On April 27, 1920, he married Miss Irene Butler, of Reidsville, North Carolina, by whom he is survived. In addition to his widow, he is survived by his two sons, his daughter, his three sisters and seven grandchildren.

Dr. Pritchett held membership in the Danville-Pittsylvania Academy of Medicine, The Medical Society of Virginia and the American Medical Association. In addition to professional societies, he was a member of the Episcopal Church of the Epiphany, the Danville Golf Club, and the Danville Barracks of World War I Veterans.

Whereas, by his faithfulness to his patients, his integrity and steadfastness in all his relations, Dr. Pritchett was a credit to his profession, a source of strength to his friends and an exemplary citizen of this community. We, his colleagues, do bemoan our loss and extend to his family our sympathy.

Therefore be it resolved that this resolution be made a part of the permanent records of the Academy and that copies be sent with the sympathy of the Academy to his family.

John R. Eggleston, M.D.
John J. Neal, Sr., M.D.
D. Lurton Arey, M.D.

Appalachian Hall • Asheville, North Carolina

ESTABLISHED 1916

An Institution for the diagnosis and treatment of Psychiatric and Neurological illnesses, rest, convalescence, drug and alcohol habituation.

Insulin Coma, Electroshock and Psychotherapy are employed. The Institution is equipped with complete laboratory facilities including electroencephalography and X-ray.

Appalachian Hall is located in Asheville, North Carolina, a resort town, which justly claims an all around climate for health and comfort. There are ample facilities for classification of patients, rooms single or en suite.

WM. RAY GRIFFIN, JR., M.D.
ROBERT A. GRIFFIN, JR., M.D.
MARK A. GRIFFIN, SR., M.D.
MARK A. GRIFFIN, JR., M.D.

For rates and further information write APPALACHIAN HALL, ASHEVILLE, N. C.

CLAY'S REST HOME

801 LUNENBURG AVENUE
BLACKSTONE, VIRGINIA

Telephone 292-4497 Area Code 703

A NEW CONCEPT IN RETIRED LIVING FOR OUR SENIOR CITIZENS

Clay's Rest Home has been designed for the retired who wish to be relieved of housekeeping and for those who desire companionship with people their own age.

. . . QUIETLY LOCATED
. . . HOME LIKE ATMOSPHERE
. . . RECREATION FACILITIES
. . . COMFORTABLE SURROUNDINGS
. . . ADJACENT BUSINESS AREA

State approved. Physicians on call 24-hours daily.

Dr. Neal.

Dr. Euclid Forrest Neal died June 4, 1966, after being in declining health since 1963.

Dr. Neal was born May 22, 1900, in Rock Springs Community, Pittsylvania County, son of Samuel and Mary Shelton Neal. He attended county schools and later William and Mary College where he graduated in 1924. He received his M.D. degree from Medical College of Virginia in 1928.

Dr. Neal's years were spent in general practice in Big Island and Altavista, following which he moved to Danville at the request of the Procurement and Assignment Service of Virginia in 1945. He supplemented the meager numbers of his fellow practitioners in a community in which the war had removed many essential men.

Dr. Neal had diversified interests in business and farming which served to cushion his retirement years when his health failed him.

Dr. Neal was a member of the First Presbyterian Church, Danville Golf Club, Elks Club and several fraternal organizations.

He is survived by a sister and a brother, in addition to his wife and two daughters.

WHEREAS during his tenure of practice in Danville and Pittsylvania County, he earned the affection and gratitude of his patients and fellow doctors despite being forced into early retirement several years before his demise by reason of ill health.

NOW THEREFORE BE IT RESOLVED that we of the Academy convey to his family and loved ones our deepest respect and sincere sympathy in their bereavement.

BE IT FURTHER RESOLVED that copies of this resolution be made a permanent part of our record of the Academy proceedings and that a copy be sent to the Virginia Medical Monthly and to his family and loved ones.

JOHN R. EGGLESTON, M.D.
D. LURTON AREY, M.D.
JEFFERSON D. BEALE, M.D.

Dr. Byrd.

Dr. Allen L. Byrd died on September 4, 1966.

Dr. Byrd was born in Harnett County, North Carolina, on September 21, 1910, a son of the late Hybert Surles Byrd and Susan Anna Kennedy Byrd. He graduated from Campbell College, then a junior college, in Buie's Creek, North Carolina, later transferring to Wake Forest College, Wake Forest, N. C., where he received the Bachelor of Science Degree. He continued at Wake Forest College Medical School for two years receiving his degree as Doctor of Medicine from the Jefferson Medical College at Philadelphia, Pennsylvania. He did post graduate work in vascular surgery at the University of Michigan.

On October 2, 1937, he married Miss Pauline Barnes of Raleigh, N. C. He began his practice of medicine in Leaksville, N. C. as an associate of Dr. Kenneth Tyner. He came to Danville in December of 1941 and during the years had established himself as one of the city's most able and respected physicians and surgeons. A veteran of World War II, he served with the U.S. Army from 1942 to 1946, during which time he was stationed in India for three years and was discharged with the rank of Major. He was a deacon of the First Baptist Church, a past president of both the Danville-Pittsylvania Academy of Medicine and the Memorial Hospital Staff, a member of the Danville Golf Club and the Danville Lions Club.

In addition to his wife, he is survived by one daughter, and three sisters.

WHEREAS the members of the Danville-Pittsylvania Academy of Medicine, deeply sensitive to the loss we have sustained by the death of one of our leading members and most capable physicians, and realizing that it is impossible to either express our sorrow over his death or our appreciation of his useful life, yet desiring to record upon our records a tribute to his memory, do

THEREFORE RESOLVE AS FOLLOWS: That in the death of Dr. Allen L. Byrd, the Danville-Pittsylvania Academy of Medicine has lost a valuable member; that the people of the community have lost a capable physician and surgeon, whose kindness, understanding and sense of duty and honor endeared him to all with whom he came in contact;

That our heartfelt sympathy be extended to his loved ones and that we share with them the sorrow of their great loss;

That a copy of these resolutions be filed in the minutes of the Academy and that a copy be sent to the family of Dr. Byrd and to the Virginia Medical Monthly.

JEFFERSON D. BEALE, JR., M.D.
JOHN R. EGGLESTON, M.D.
D. LURTON AREY, M.D.

Let's get
down to earth
about
diuretics

With Hygroton, you'll discover that you can almost always use fewer tablets than is possible with other diuretics.

You may be told that a new short-acting diuretic was found more effective than Hygroton in congestive heart failure—but this was when twice the manufacturer's maximum recommended dose was given.* At the maximum recommended dose for both diuretics, two tablets of Hygroton were far and away more effective than five tablets of the other diuretic in producing natruresis and weight loss. And at these dosages, Hygroton costs only ⅓ as much as the other diuretic.

Since the discovery of chlorothiazide, the trend has been away from short-acting, multiple-dose, high-cost diuretics. With Hygroton you can usually do the job with just one tablet a day, or every other day.

More than any of the newer diuretics, Hygroton brings dosage and cost of medication down to earth.

*Brest, A. N., et al.: J. New Drugs 5:329, 1965.

Hygroton®
chlorthalidone

Indications: Hypertension and many types of edema involving retention of salt and water. **Contraindications:** Hypersensitivity and most cases of severe renal or hepatic disease. **Warning:** With administration of enteric-coated potassium supplements, the possibility of small bowel lesions should be kept in mind. **Precautions:** Reduce dosage of concomitant antihypertensive agents by at least one-half. Discontinue if the BUN rises or liver dysfunction is aggravated. Electrolyte imbalance and potassium depletion may occur; take special care in cirrhosis or severe ischemic heart disease, and in patients receiving corticosteroids, ACTH, or digitalis. Salt restriction is not recommended. **Side Effects:** Dizziness, weakness, nausea, vomiting, hyperglycemia, hyperuricemia, headache, muscle cramps, postural hypotension, constipation, leukopenia, thrombocytopenia, agranulocytosis, impotence, dysuria, transient myopia, skin reactions, including urticaria and purpura, epigastric pain, or G.I. symptoms after prolonged administration. **Average Dosage:** One tablet (100 mg.) with breakfast daily or every other day. **Availability:** Tablets of 100 mg. in bottles of 100 and 1000. For full details, see the complete prescribing information. 6524-V(B)

HY-4735

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation, Ardsley, New York

Geigy

JOHNSTON-WILLIS HOSPITAL

RICHMOND, VIRGINIA

A MODERN GENERAL HOSPITAL
PRIVATELY MANAGED
SITUATED IN THE QUIET OF THE
WEST END RESIDENTIAL SECTION

Riverside Convalescent Home

Sophia & Fauquier Sts.
Fredericksburg, Virginia

Large, air-conditioned, Firesafe building with hospital-like facilities but in a cheerful home-like atmosphere. Twenty-four hour medical supervision and nursing care.

Recreational areas—Occupational and Physiotherapy. Excellent food service. Lovely Riverside Park. Inspection invited. All types of accommodations available.

Rates:
$50.00 to $80.00 per week

HIGHLAND HOSPITAL

Asheville, North Carolina

Founded 1904

A DIVISION OF THE DEPARTMENT OF PSYCHIATRY OF DUKE UNIVERSITY

Accredited by the Joint Commission on Accreditation and Certified for Medicare

Complete facilities for evaluation of and intensive treatment of psychiatric patients, including individual psychotherapy, group therapy, psychodrama, electro-convulsive therapy, Indoklon convulsive therapy, drugs, social service work with families, family therapy, and an extensive and well organized activities program, including occupational therapy, art therapy, athletic activities and games, recreational activities and outings. The treatment program of each patient is carefully supervised in order that the therapeutic needs of each patient may be realized.

Complete modern facilities with 85 acres of landscaped and wooded grounds in the City of Asheville.

Brochures and information on financial arrangements available

Contact: Mrs. Elizabeth Harkins, ACSW, *Coordinator of Admissions*

or

Charles W. Neville, Jr., M.D.
Assistant Professor of Psychiatry and Medical Director

Area Code 704—253-2761

when congestion is complicated by sulfa-susceptible bacterial invaders in the upper respiratory tract...

prescribe economical Trisulfaminic®

Each tablet contains: Triaminic® 25 mg. (phenylpropanolamine hydrochloride 12.5 mg., pheniramine maleate 6.25 mg., pyrilamine maleate 6.25 mg.); Trisulfapyrimidines, U.S.P. 0.5 Gm. (sulfadiazine 0.167 Gm., sulfamerazine 0.167 Gm., sulfamethazine 0.167 Gm.)

PHARMACOLOGY: Triaminic decongests and promotes drainage of nasal and paranasal passages, and prevents any further histamine-induced damage; the triple sulfonamides inhibit susceptible bacterial invaders. INDICATIONS: For congestion and infection of the upper respiratory tract caused by sulfa-susceptible organisms. DOSAGE: Adults: 2 to 4 tablets initially, followed by 2 tablets every 6 hours. Medication should be continued until patient has been afebrile for 3 days. ADVANTAGES: The advantages of Trisulfaminic in upper respiratory infections are: freedom from narcotics or alcohol; therapeutic reliability; safety; economy; ease of administration; freedom from potential sensitization to broad-spectrum antibiotics which may be reserved for lower respiratory or other infections caused by susceptible organisms. CONTRAINDICATIONS: Contraindicated in sulfonamide and antihistamine sensitivity, impaired renal function, pregnancy approaching term, and in premature infants and newborn infants during the first month of life. Do not use in patients with glaucoma, prostatic hypertrophy, stenosing peptic ulcer, pyloroduodenal or bladder neck obstruction. WARNING: Use only after careful evaluation in patients with liver or renal damage, urinary obstruction, or blood dyscrasias. Deaths have been reported from hypersensitivity reactions with administration of sulfonamides. In intermittent or prolonged therapy, blood counts and liver and kidney function tests should be performed periodically. Sulfonamide therapy may potentiate the hypoglycemic action of sulfonylureas. PRECAUTIONS: Use with caution in patients with histories of significant allergy or asthma. Assure an adequate fluid intake. Because the antihistamines may cause drowsiness of varying degree, warn patients about activities requiring alertness such as driving a car or operating dangerous machinery. Use with caution in the presence of hypertension, hyperthyroidism, cardiovascular disease and diabetes. ADVERSE REACTIONS: As in all sulfonamide therapy, the following reactions may occur: headache, nausea, vomiting, diarrhea, icterus, hepatitis, pancreatitis, urticaria, rash, fever, cyanosis, hematuria, crystalluria, proteinuria, blood dyscrasias, petechiae, purpura, neuropathy and injection of the conjunctiva and sclera. If one or more of these reactions occur, the drug should be discontinued. With antihistaminic therapy there have been reports of sedation varying from mild drowsiness to deep sleep, dizziness, lassitude, inability to concentrate, fatigue, incoordination, tinnitus, blurred vision, diplopia, euphoria, nervousness, insomnia, tremors, palpitation, hypotension, headache, chest tightness, urinary frequency, dysuria, tingling of the hands, dryness of the mouth, throat, and nose, gastrointestinal disturbances such as epigastric distress, anorexia, nausea, vomiting, constipation and diarrhea and very rarely, leukopenia and agranulocytosis. Adverse reactions reported with the use of sympathomimetic amines include anxiety, tension, restlessness, nervousness, tremor, weakness, insomnia, headache, palpitation, tachycardia, angina, elevation of blood pressure, sweating, mydriasis, anorexia, nausea, vomiting, dizziness, constipation, and dysuria due to vesicle sphincter spasm. PACKAGE INFORMATION: Trisulfaminic Tablets: Supplied in bottles of 100 tablets. CAUTION: Federal law prohibits dispensing without prescription.

DORSEY LABORATORIES · *a division of The Wander Company* · **LINCOLN, NEBRASKA**

Against these three major pathogens...

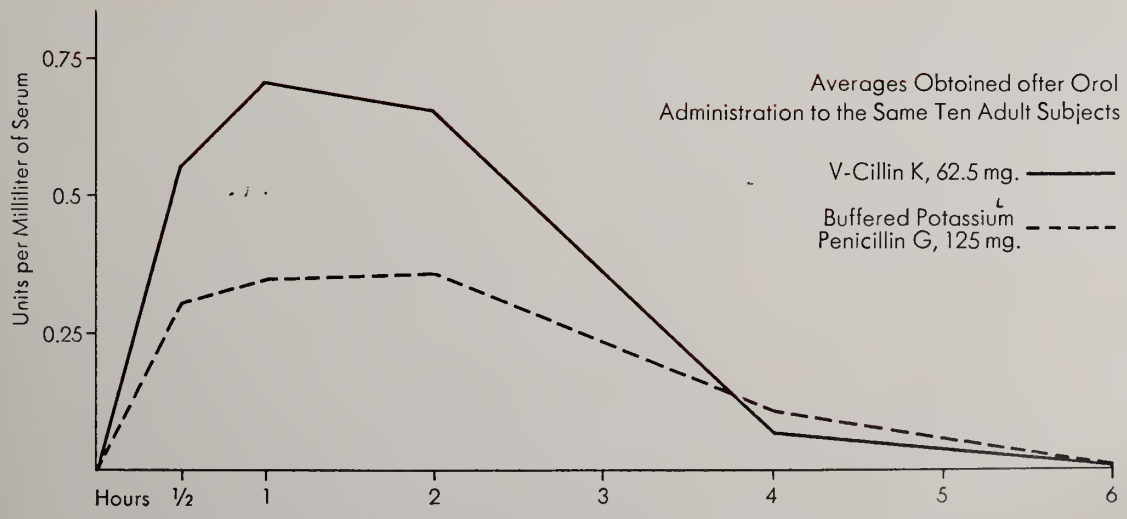
V-Cillin K® provides unexcelled oral antibacterial activity

because it combines a high degree of in-vitro activity...

Antibiotic	Staph. Aureus (Penicillin-Sensitive) MIC (mcg./ml.) Median	Range	Streptococcus, Group A MIC (mcg./ml.) Median	Range	Diplococcus Pneumonioe MIC (mcg./ml.) Median	Range
Penicillin V	0.02	0.02-0.04	0.02	0.003-0.4	0.01	0.005-0.2
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxocillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269 1019, 1963.

with high blood levels, even in the presence of food



Adapted from Griffith, R. S., and Black, H. R.: Current Ther. Res., 6 253, 1964.

V-Cillin K® Lilly 700157

Potassium Phenoxymethyl Penicillin

(See next page for prescribing information.)

New 500 mg. tablets... a more convenient way to give high doses

Description: V-Cillin K is the potassium salt of V-Cillin® (phenoxymethyl penicillin, Lilly). This chemically improved form combines acid stability with immediate solubility and rapid absorption. Higher serum levels are obtained more rapidly with this penicillin than with equal oral doses of penicillin G. The higher serum levels and acid stability of V-Cillin K make it a more dependable penicillin for oral use.

V-Cillin K, Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed, each 5 cc. (approximately one teaspoonful) will contain 125 mg. (200,000 units) phenoxymethyl penicillin as the potassium salt.

Indications: V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

Contraindication: V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

Precautions: V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy. Reactions occur more frequently in individuals with bronchial asthma or other allergies or in those who have previously demonstrated sensitivity to penicillin. If hypersensitivity reactions occur, the drug should be discontinued.

Adverse Reactions: Although serious allergic reactions are much less common with administration of oral penicillin than with intramuscular forms, skin rash, symptoms resembling those of serum sickness, or other manifestations of penicillin allergy may occur. When penicillin is administered, measures for treating anaphylaxis should be readily available. Those include epinephrine, oxygen, and pressor drugs for relief of immediate allergic manifestations as well as antihistamines and corticosteroids for delayed effects.

The use of antimicrobial agents may be associated with the overgrowth of antibiotic-resistant organisms; in such a case, antibiotic administration should be stopped and appropriate measures taken.

Administration and Dosage: For Tablets V-Cillin K and for V-Cillin K, Pediatric, the usual dosage ranges from 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants, the daily dosage may be 50 mg. per Kg. of body weight divided into three doses.

Beta-hemolytic streptococcus infections without associated bacteremia may be treated with 200,000 to 400,000 units three times a day. Therapy should be continued for a minimum of ten days to prevent development of rheumatic fever and/or other serious complications. Dosage for routine streptococcus prophylaxis in patients with a history of rheumatic fever or congenital heart disease may be 200,000 units once or twice daily. When such patients undergo tonsillectomy, tooth extraction, or other minor surgery, the prophylactic dose should be 500,000 units every six hours given two days prior to surgery and for two days postoperatively. If oral medication is not feasible on the day of surgery, parenteral therapy should be considered. Mild to moderately severe pneumococcus pneumonia has been treated effectively with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be given every six to eight hours in conjunction with indicated surgical procedures.

For gonorrhea in males, 500 mg. (800,000 units) every six hours for three doses may be employed; in females, 500 mg. every four hours for six doses are recommended. Patients with a suspected lesion of syphilis should have a dark-field examination before receiving penicillin and monthly serologic tests for a minimum of three months.

How Supplied: Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units), in bottles of 50 and 100; 250 mg. (400,000 units), and 500 mg. (800,000 units) in bottles of 24 and 100.

V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) per 5 cc. of solution, in 40, 80, and 150-cc.-size packages.

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.

Lilly

700157

BAYBERRY PSYCHIATRIC HOSPITAL
HAMPTON, VIRGINIA

A private psychiatric hospital for the treatment of nervous and emotional disorders and the various problems of addiction for both white and colored—employing modern diagnostic and treatment procedures—electro-convulsive and insulin, individual and group psychotherapy, chemotherapy.

WENDELL J. PILE, M.D.
Medical Director

HOWARD L. COX, M.D. BASIL E. ROEBUCK, M.D.

CLINICAL PSYCHOLOGISTS

WILLIAM E. TYSON, Chief Psychologist

CHARLES T. PERKINS MILAN S. WILSON

BROCHURE OF LITERATURE SENT ON REQUEST
Write or call:

BAYBERRY PSYCHIATRIC HOSPITAL
530 East Queen Street
Hampton, Virginia 23369
Telephone: PARK 2-2504

ST. LUKE'S HOSPITAL
McGUIRE CLINIC

1000 West Grace Street
Richmond, Virginia

Internal Medicine
JOHN P. LYNCH, M.D.
WM. H. HARRIS, JR., M.D.
JOHN B. CATLETT, M.D.
ROBERT W. BEDINGER, M.D.
ALICE VIRGINIA THORPE, M.D.
DAVID L. LITCHFIELD, M.D.

General Surgery and Gynecology
WEBSTER P. BARNES, M.D.
JOHN H. REED, JR., M.D.
JOSEPH W. COXE III, M.D.
H. FAIRFAX CONQUEST, M.D.
GILBERT H. BRYSON, M.D.

Neurology
RAYMOND A. ADAMS, M.D.

Orthopedic Surgery
JAMES T. TUCKER, M.D.
BEVERLEY B. CLARY, M.D.
JAMES B. DALTON, JR., M.D.
EARNEST B. CARPENTER, M.D.
FRANKLIN P. WATKINS, M.D.
ERNEST L. CLEMENTS, M.D.

Urology
AUSTIN I. DODSON, JR., M.D.
J. EDWARD HILL, M.D.
WILLIAM T. STUART, JR., M.D.

Bronchoscopy
GEORGE AUSTIN WELCHONS, M.D

Radiology and Isotope Medicine
HENRY S. SPENCER, M.D.
DONALD E. SEIM, M.D.

Pathology
J. H. SCHERER, M.D.

Anesthesiology
HETH OWEN, JR., M.D.
WILLIAM B. MONCURE, M.D.
BEVERLY JONES, M.D.
BOYD H. MAY, M.D.

Administrator
WILLIAM D. GIBSON, M.H.A.
Secretary-Treasurer

ALL ROOMS AIR CONDITIONED
Free Parking for Patrons

Now, now, Mrs. Forsythe, we've never lost a cold patient yet.

When she's experiencing acute discomfort from cold symptoms, it's small wonder the patient becomes distressed about her condition.

She will breathe easier when you prescribe Novahistine LP.

Novahistine LP is a long-acting decongestant that helps restore normal mucus secretion and ciliary activity—physiologic mechanisms which prevent infection of the respiratory tract. A dose of two tablets taken in the morning and repeated in the evening will usually keep air passages clear for 24 hours.

Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution patients who operate machinery or motor vehicles that drowsiness may result.

Each Novahistine LP tablet contains: phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

Dow PITMAN-MOORE Division of The Dow Chemical Company, Indianapolis

NOVAHISTINE® LP

For relief of nasal congestion.

Fourth Decade of Nursing

MRS. PLYLER'S NURSING HOME

KATE E. PLYLER (1876-1947) MARY I. CLARK (1884-1955) GENE CLARK REGIRER (1912-1962)

A private nursing home dedicated to the care of chronic, convalescent and aged

MRS. EDNA SHEPHERD TARCEN, Superintendent

1615 Grove Avenue, Richmond, Virginia, Telephone EL 9-3221

Fire Protection by Grinnell Sprinkler System

Richmond Eye Hospital
Richmond Ear, Nose and Throat Hospital

408 North 12th Street
Richmond, Virginia 23219

An Independent Specialized Non-Profit Community Hospital Dedicated to the Treatment and Cure of Eye, Ear, Nose and Throat Diseases and Disorders.

Professional care offered a limited number of indigent patients.

Direct inquiries to John H. Tobin, Jr., Administrator

408 N. 12th Street, Richmond, Virginia

The AMBAR SCRAPBOOK of

Obesity Oddities

FACT & LEGEND

GALLSTONES HAVE BEEN FOUND IN 60% OF PATIENTS WHO WEIGH MORE THAN 300 POUNDS, 45% HAVE DIABETES, AND 15-TO-20% HAVE HIGH BLOOD PRESSURE.

SOURCE: DUNCAN, G.G.: SCIENCE NEWS LETTER, 83:403 (JUNE 29) 1963.

NAPOLÉON BONAPARTE

LOST THE BATTLE OF WATERLOO BECAUSE HE WAS TOO FAT!

ACCORDING TO THE NEW YORK TIMES OF APRIL 13, 1890, THE DEFEAT OCCURRED BECAUSE HE FAILED TO CHECK HIS INTELLIGENCE INFORMATION. "IT WAS A MATTER OF MERE INDOLENCE AND THIS INDOLENCE WAS CAUSED BY FAT."

SOURCE: JAMA 186:65 (OCT. 5) 1963.

THE BOOK "PRAY YOUR WEIGHT AWAY" URGES READERS TO "ASK GOD TO HELP YOU LIKE EXERCISE" FOR 15 MINUTES A DAY.

SOURCE: REV. C.W. SHEDD: NEW YORK: LIPPINCOTT, 1958.

DIET DROPOUTS

ACCORDING TO DRS. SHIPMAN AND PLESSET "APPARENTLY NO DIETER SUCCEEDS WHO IS VERY ANXIOUS OR DEPRESSED."*

THE AMBAR FORMULA PROVIDES **METHAMPHETAMINE** TO HELP **ELEVATE** THE **MOOD** AND **PHENOBARBITAL** TO HELP REDUCE **ANXIETY.**

*SOURCE: ARCHIVES OF GENERAL PSYCHIATRY 8:26 (JUNE 1963).

CONTROL FOOD AND MOOD ALL DAY LONG WITH A SINGLE MORNING DOSE

One Ambar Extentab before breakfast can help control most patients' appetite for up to 12 hours. Methamphetamine, the appetite suppressant, gently elevates mood and helps overcome dieting frustrations. Phenobarbital, the sedative in Ambar, controls irritability and anxiety ...helps maintain a state of mental calm and equanimity. Both work together to ease the tensions that erode the willpower during periods of dieting.

Ambar #2 Extentabs®

methamphetamine HCl 15 mg., phenobarbital 64.8 mg. (1 gr.)
(Warning: may be habit forming)

Also available: Ambar #1 Extenabs®—methamphetamine hydrochloride 10 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

BRIEF SUMMARY—**Indications:** Ambar suppresses appetite and helps offset emotional reactions to dieting. **Side Effects:** Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. **Precautions:** Administer with caution in the presence of cardiovascular disease or hypertension. **Contraindications:** Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. See package insert for further details.

A. H. ROBINS CO., Richmond, Virginia 23220

A·H·ROBINS

"I can breathe again," he said openly.

in sinusitis, colds, U. R. I.

Dimetapp® Extentabs®

(Dimetane® [brompheniramine maleate], 12 mg.; phenylephrine HCl, 15 mg.; phenylpropanolamine HCl, 15 mg.)

up to 10-12 hours clear breathing on one tablet

It's clear—Dimetapp lets your "stuffed-up" patients breathe easy again. Each hard-working Extentab brings welcome relief from the stuffiness, drip and congestion of upper respiratory conditions for up to 10-12 hours. Yet, patients seldom experience drowsiness or overstimulation. The key to success is the Dimetapp formula: Dimetane (brompheniramine maleate)—along with phenylephrine and phenylpropanolamine, two time-tested decongestants. They get the job done...in a hurry.

Contraindications: Hypersensitivity to antihistamines. Not recommended for use during pregnancy. **Precautions:** Until patient's response has been determined, he should be cautioned against engaging in operations requiring alertness. Administer with care to patients with cardiac or peripheral vascular diseases or hypertension. **Side Effects:** Hypersensitivity reactions including skin rashes, urticaria, hypotension and thrombocytopenia have been reported on rare occasions. Drowsiness, lassitude, nausea, giddiness, dryness of the mouth, mydriasis, increased irritability or excitement may be encountered. A.H. ROBINS CO., Richmond, Virginia 23220
Dosage: 1 Extentab morning and evening. **Supplied:** Bottles of 100 and 500.

A·H·ROBINS

TUCKER HOSPITAL Inc.

212 West Franklin Street

Richmond, Virginia

A private hospital for diagnosis and treatment of psychiatric and neurological disorders. Hospital and out-patient services.

James Asa Shield, M.D.
George S. Fultz, Jr., M.D.
Catherine T. Ray, M.D.

Weir M. Tucker, M.D.
Edward W. Gamble, III, M.D.
Gerald W. Atkinson, M.D.

DOCTORS:

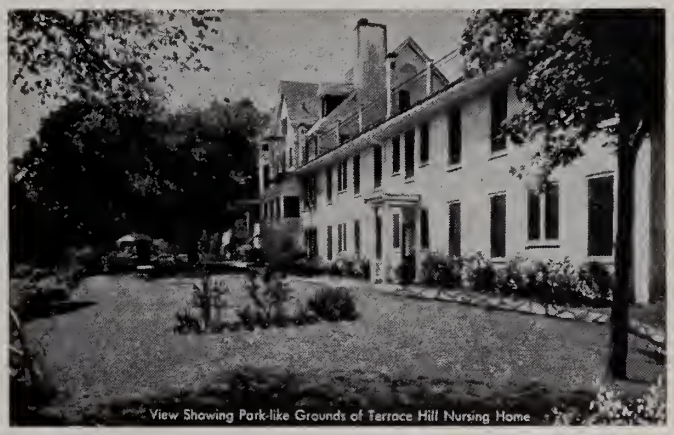
ADMINISTRATORS:

Terrace Hill Nursing Home Is a Fully Accredited Extended Care Facility

Within 9 minutes from any local hospital

- **Post Hospital Nursing Care**
- **Round the Clock Skilled Care**
- **Sprinkler System, Fire Protected**
- **R.N. Supervision**
- **Activities**
- **Trained Dietitian**
- **Male Orderlies**

State and City Health Depts. Approved



View Showing Park-like Grounds of Terrace Hill Nursing Home

In compliance with the Civil Rights Act of 1964

Patients under care of their own Physicians

Neal L. Maslan, M.P.H.

Administrator

"Understanding Care"

Member: + Va. Nursing Home and American Nursing Home Assns.

Member

TERRACE HILL NURSING HOME, INC.

2112 MONTEIRO AVENUE RICHMOND, VIRGINIA 23222 643-2777

fluocinolone acetonide — an original steroid from
SYNTEX
LABORATORIES INC., PALO ALTO, CALIF.

controls infected inflammatory dermatoses that start from scratch

The "itch-scratch" cycle usually associated with inflammation often results in infected dermatoses because broken skin surfaces are particularly vulnerable to pathogenic bacteria.[1] To treat infected inflammatory dermatoses, Neo-Synalar Cream combines the most active topical corticosteroid with a highly reliable antibiotic generally reserved for topical application.

In Neo-Synalar, fluocinoline acetonide controls the inflammation and provides rapid relief from associated pruritus. At the same time, its antibacterial component—neomycin—combats superficial infection caused by many gram-positive and gram-negative bacilli[2] that often colonize and thrive on abraded skin.[1]

A specially formulated vanishing cream base that is greaseless and odor free makes Neo-Synalar cosmetically appealing, and encourages greater patient cooperation.

controls the infection

stops the scratch

Contraindications: Tuberculous, fungal, and most viral lesions of the skin (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of its components. **Precautions:** Neomycin rarely produces allergic reactions. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. Where severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time. **Side Effects:** Side effects are not ordinarily encountered with topical corticosteroids. As with all drugs, however, a few patients may react unfavorably to Neo-Synalar under certain conditions. **Availability:** Neo-Synalar Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes.

References: 1. Pillsbury, D. M., Shelley, W. B., and Kligman, A. M.: A manual of cutaneous medicine, Philadelphia, Saunders, 1961, p. 79. **2.** Barber, M., and Garrod, L. P.: Antibiotic and chemotherapy, Baltimore, Williams and Wilkins, 1963, p. 111.

Neo-Synalar®

(fluocinolone acetonide-neomycin sulfate cream)

Cream

ST. ELIZABETH'S HOSPITAL

617 West Grace Street
Richmond, Virginia
Established 1912

Guy W. Horsley, M.D.
General Surgery and Gynecology

James T. Gianoulis, M.D.
General Surgery and Gynecology

James W. Pancoast, M.D.
General Surgery and Gynecology

Leroy Smith, M.D.
Plastic Surgery

Hunter B. Frischkorn, Jr.
Radiology

Austin I. Dodson, Jr., M.D.
Urology

J. Edward Hill, M.D.
Urology

William T. Stuart, M.D.
Urology

Levi W. Hulley, M.D.
General Medicine

Clarry C. Trice, M.D.
General Medicine

Douglas G. Chapman, M.D.
Internal Medicine

George W. Reese, Jr., M.D.
Internal Medicine

Elmer S. Robertson, M.D.
Internal Medicine

Charles A. Pollock, Jr., M.D.
Internal Medicine

William R. Draper, *Administrator*

For the Care of Surgical, Gynecological, Urological and Medical Cases.

SAINT ALBANS

PSYCHIATRIC HOSPITAL

(A Non-Profit Organization)

Radford, Virginia

Telephone: 639-2482

STAFF

James P. King, M.D., Director

William D. Keck, M.D.
Clinical Director
James K. Morrow, M.D.
Morgan E. Scott. M.D.

Edward E. Cale, Jr., M.D.
J. William Giesen, M.D.
Internist (Consultant)

Clinical Psychology:
Thomas C. Camp, Ph.D.
Cardestal McGraw, Ph.D.
David L. Strahley, Ph.D.

Don Phillips
Administrator
R. Lindsay Shuff, M.H.A.
Assistant Administrator

AFFILIATED CLINICS

Bluefield Mental Health Center
525 Bland St., Bluefield, W. Va.
David M. Wayne, M.D.
Phone: 325-9159

Beckley Mental Health Center
109 E. Main Street, Beckley, W. Va.
W. E. Wilkinson, M.D.
Phone: 253-8397

Charleston Mental Health Center
1206 Quarrier St., Charleston, W. Va.
Malcolm G. MacAulay, M.D.
Phone: 344-3578

Mental Health Clinic
Professional Building, Wise, Va.
Pierce D. Nelson, M.D.
Phone: 328-2211

New from Du Pont

Symmetrel®

(Amantadine HCl)

The first oral chemical virostat for the prevention of influenza A_2

Influenza virus
Protein shell enclosing the core of nucleic acid (RNA)—artist's representation

The incidence of influenza A_2. In this country, where influenza is one of the leading causes of morbidity, influenza A_2 (Asian) continues to be a serious medical problem. In 1957 influenza A_2 was responsible for approximately 40,000 excess deaths in a three-month period. Since that year the most prevalent influenza virus has been A_2 (Asian).

What is Symmetrel®? "Symmetrel" (amantadine HCl) is a new synthetic chemical which acts as a molecular barrier to virus penetration. It provides for the first time specific oral medication for the prevention of respiratory infections caused by influenza A_2 (Asian) viruses—an entirely new approach in preventive medicine.

For prescribing information, see last page of this presentation

What Symmetrel® (amantadine HCl) means to you

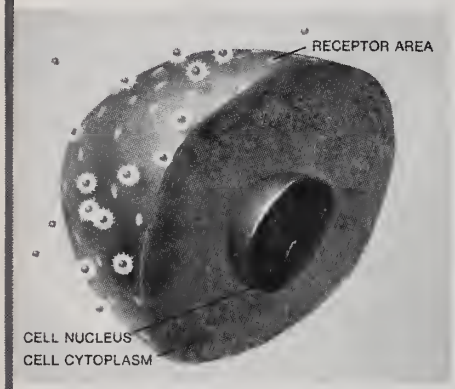
...the first and only oral chemical agent to prevent influenza A_2 (Asian).
...not a vaccine or antibiotic, but a new synthetic chemical unrelated to any other chemotherapeutic agent.
...unique mode of action: prevents virus penetration of the host cell without affecting vital cell functions.
...specifically active against all influenza A_2 viruses tested to date.
...not indicated for the prevention of influenzal or respiratory illness other than influenza A_2 or for the treatment of established disease.
...does not interfere with normal antibody response; acts in concert with pre-existing antibody.

What Symmetrel® means to your patient

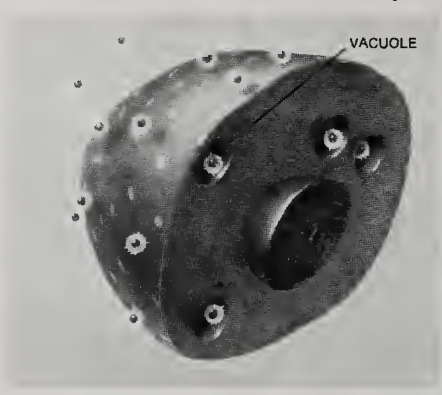
...possible immediate influenza A_2 protection when taken following suspected contact.
...may be particularly useful during outbreaks or epidemics and for high-risk patients in whom the occurrence of influenza A_2 is especially hazardous.
...a high degree of safety in clinical use.
...simple once daily or b.i.d. dosage.

The mode of action of Symmetrel®

How the influenza virus invades and destroys the untreated cell



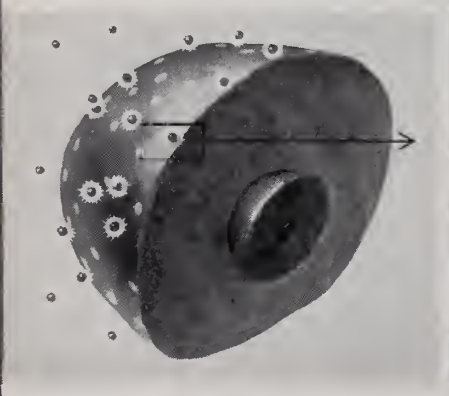
1 Viruses outside the cell attach themselves to specific cell receptor areas

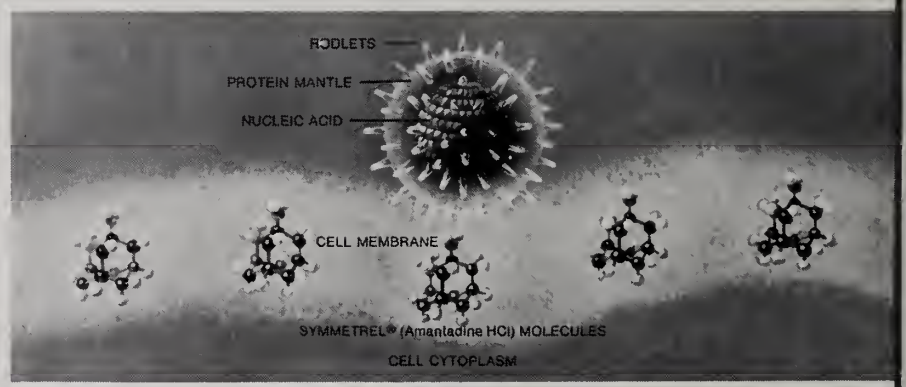


2 The virus is incorporated into a vacuole within the cell. From this vacuole the virus nucleic acid passes into the cell cytoplasm

3 The virus nucleic acid then directs the cell to produce both new virus nucleic acid and virus protein coat material which aggregate to form new virus particles. This process leads to the release of new virus particles and eventual destruction of the cell

How Symmetrel® (Amantadine HCl) prevents virus invasion[1]





Our current knowledge leads us to believe "Symmetrel" acts as a molecular barrier to influenza virus penetration. Shown here in a greatly enlarged section, "Symmetrel"—located at the cellular membrane—effectively prevents (blocks) virus penetration. Thus, "Symmetrel" does not directly destroy the virus particle but acting as a virostat prevents the cycle of virus penetration, virus replication, and cell destruction that is characteristic of virus invasion of animal cells (tissue). *Artist's conception based on current scientific knowledge.*

1. "Mode of Action of the Antiviral Activity of Amantadine in Tissue Culture", Hoffmann, C. E.; Neumayer, E. M.; Haff, R. F.; and Goldsby, R. A., Journal of Bacteriology *90*,623 (1965).

Safety of Symmetrel® Confirmed. When used as indicated, is generally well tolerated. No kidney, liver, bone marrow, or hematological disturbances have been observed.

Prescribing Information

Indications: "Symmetrel" is indicated for the prevention (prophylaxis) of influenza A_2 in persons of all age groups. Early use is recommended, preferably before or as soon as possible after actual or suspected contact with individuals suffering from influenza A_2. "Symmetrel" should especially be considered for high influenza-risk patient groups such as those suffering from chronic debilitating diseases and elderly persons.

Contraindications: Not indicated for the prevention of influenzal or respiratory illness other than influenza A_2 or for the treatment of established disease.

Warnings: Administration to patients with central nervous system disease, particularly geriatric patients with cerebral arteriosclerosis, and patients with a history of epilepsy or other "seizures," requires strict observation for possible untoward effects (see Adverse Reactions). Patients taking psychopharmacologic drugs, central nervous system stimulants, or alcoholic beverages should be observed for possible evidence of intolerance. Those patients who experience central nervous system effects or blurring of vision should be cautioned against driving or working in situations where alertness is important.

No teratogenic effects have been seen in reproductive studies in rats and rabbits. Studies in pregnant women have, however, not been done and use of this drug in women of childbearing age should be undertaken only after weighing the possible risks to the fetus against benefit to the pregnant patient. It should not be administered to nursing mothers since it is not known whether the drug is secreted in the milk.

Precautions: Ineffective against bacterial infections. Patients should be observed for idiosyncratic reactions as with all new drugs. Geriatric patients with pre-existing serious medical illnesses with mental or physical deterioration should be followed carefully medically while taking "Symmetrel." (See Adverse Reactions.)

Adverse Reactions: With higher than indicated doses manifestations of central nervous system effects such as nervousness, insomnia, dizziness, lightheadedness, drunken feeling, slurred speech, ataxia, inability to concentrate and some psychic reactions including depression and feelings of detachment were seen. Occasional blurred vision was reported at higher doses. Some of the milder and less pronounced symptoms above have been reported in a small number of patients taking the recommended dosage of 200 mg per day. Those were mostly transient and disappeared with continued administration of the drug. Some geriatric patients developed paranoid or hallucinatory behavior and became unmanageable while taking 200 mg daily. Medically unselected seriously deteriorated geriatric patients showed poor clinical tolerance after several weeks of daily dosing with 200 mg per day. One elderly patient with a history of prior cerebrovascular accident developed visual hallucinations and grand-mal convulsions while on drug at 800 mg per day. Some cases of dry mouth, gastrointestinal upset and skin rash and rarely, tremors, anorexia, pollakiuria, and nocturia have been also reported.

Safety: When used as indicated, is generally well tolerated. No kidney, liver, bone marrow, or hematological disturbances have been observed.

Dosage: *Adults:* Two 100 mg capsules (or 4 teaspoonfuls of syrup) as a single daily dose or the daily dose may be divided into one capsule of 100 mg (or 2 teaspoonfuls of syrup) twice a day.

Children: 1 yr.—9 yrs. of age: Calculate total daily dose on the basis of 2 mg to 4 mg per pound of body weight per day (but not to exceed 150 mg per day). Daily dose, given as the syrup, should be given in 2 or 3 equal portions.

9 yrs.—12 yrs. of age: Total daily dose 200 mg given as one capsule of 100 mg (or 2 teaspoonfuls of syrup) twice a day.

How Supplied: *Capsules:* Bottles of 100. Each red, gelatin capsule contains 100 mg amantadine HCl.
Syrup: Bottles of 1 pint. Each 5 ml (1 teaspoonful) contains 50 mg amantadine HCl.

DU PONT

Symmetrel®

(Amantadine HCl)

A molecular barrier to virus penetration

arrest diarrhea

in • gastroenteritis • acute infections

LOMOTIL®

Each tablet and each 5 cc. of liquid contains:
diphenoxylate hydrochloride . . . . . 2.5 mg.
(Warning: May be habit forming)
atropine sulfate . . . . . 0.025 mg.

Effectiveness: Lomotil possesses a unique degree of effectiveness in both acute and chronic diarrhea.

Convenience: Lomotil is supplied as small, easily carried, easily swallowed tablets and as a pleasant, fruit-flavored liquid.

Versatility: The therapeutic efficiency, safety and convenience of Lomotil may be used to advantage alone or as adjunctive therapy in diarrhea associated with:

- **Ulcerative colitis**
- **Acute infections**
- **Irritable bowel**
- **Regional enteritis**
- **Drug therapy**
- **Food Poisoning**
- **Functional hypermotility**
- **Malabsorption syndrome**
- **Ileostomy**
- **Gastroenteritis and colitis**

Dosage: For correct therapeutic effect—Rx correct therapeutic dosage. The recommended initial daily dosages, given in divided doses, until diarrhea is controlled, are:

Children: Age	Total Daily Lomotil Dosage	Lomotil Liquid Dosage (Each teaspoonful [4 cc.] contains 2 mg. of diphenoxylate HCl)
3-6 months	3 mg.	½ tsp. 3 times daily
6-12 months	4 mg.	½ tsp. 4 times daily
1-2 years	5 mg.	½ tsp. 5 times daily
2-5 years	6 mg.	1 tsp. 3 times daily
5-8 years	8 mg.	1 tsp. 4 times daily
8-12 years	10 mg.	1 tsp. 5 times daily

Adults: 20 mg. (2 tsp. 5 times daily or 2 tablets 4 times daily) Based on 4 cc. per teaspoonful. Maintenance dosage may be as low as one-fourth the initial daily dose.

Precautions: Lomotil, brand of diphenoxylate hydrochloride with atropine sulfate, is a Federally exempt narcotic preparation of very low addictive potential. Recommended dosages should not be exceeded. Lomotil should be kept out of reach of children since accidental overdosage may cause severe respiratory depression. Lomotil should be used with caution in patients with impaired liver function and in patients taking addicting drugs or barbiturates. The subtherapeutic amount of atropine is added to discourage deliberate overdosage.

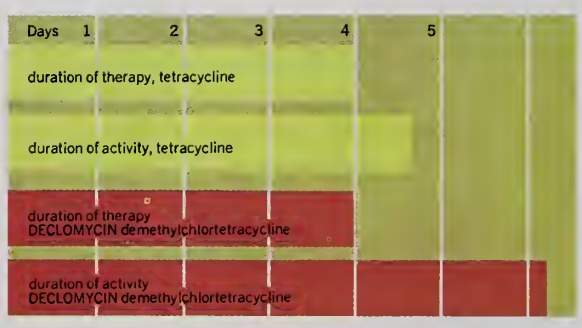
Side Effects: Side effects are relatively uncommon but among those reported are gastrointestinal irritation, sedation, dizziness, cutaneous manifestations, restlessness, insomnia, numbness of extremities, headache, blurring of vision, swelling of the gums, euphoria, depression and general malaise.

why wonder about a drug

when you know

DECLOMYCIN®
DEMETHYLCHLORTETRACYCLINE

produces 1-2 "extra" days' activity



1-2 "extra" days' activity
after the last dose to protect against relapse

one 300 mg tablet b.i.d.
or
one 150 mg capsule q.i.d.

Effective in a wide range of everyday infections—respiratory, urinary tract and others—in the young and aged—the acutely or chronically ill—when the offending organisms are tetracycline-sensitive.

Contraindication—History of hypersensitivity to demethylchlortetracycline.

Warning—In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort.

Precautions and Side Effects—Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

Capsules: 150 mg; *Tablets:* film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York
419-6—4075

Lederle

For he's a jolly good fellow

But what does he think?

Many overweight patients can benefit from the appetite control provided by the sustained anorexigenic-tranquilizing action of BAMADEX SEQUELS: anorexigenic action of amphetamine; tranquilizing action of meprobamate; prolonged action through sustained release of active ingredients.

Bamadex® Sequels®

DEXTRO-AMPHETAMINE SULFATE (15 mg.) WITH MEPROBAMATE (300 mg.) SUSTAINED RELEASE CAPSULES

to help establish a new dietary pattern

Contraindications: Dextro-amphetamine sulfate: in hyperexcitability and in agitated prepsychotic states. Previous allergic or idiosyncratic reactions to meprobamate.

Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.

Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreosing the dose, or by concomitant administration of central stimulants. Allergic ar idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

Lederle

LEDERLE LABORATORIES
A Division of American Cyanamid Company,
Pearl River, New York

695-6

Posed by professional model.

You can't set her free. But you can help her feel less anxious.

You know this woman.

She's anxious, tense, irritable. She's felt this way for months.

Beset by the seemingly insurmountable problems of raising a young family, and confined to the home most of the time, her symptoms reflect a sense of inadequacy and isolation. Your reassurance and guidance may have helped some, but not enough.

SERAX (oxazepam) cannot change her environment, of course. But it can help relieve anxiety, tension, agitation and irritability, thus strengthening her ability to cope with day-to-day problems. Eventually—as she regains confidence and composure—your counsel may be all the support she needs.

Indicated in anxiety, tension, agitation, irritability, and anxiety associated with depression.

May be used in a broad range of patients, generally with considerable dosage flexibility.

Contraindications: History of previous hypersensitivity to oxazepam. Oxazepam is not indicated in psychoses.

Precautions: Hypotensive reactions are rare, but use with caution where complications could ensue from a fall in blood pressure, especially in the elderly. One patient exhibiting drug dependency by taking a chronic overdose developed upon cessation questionable withdrawal symptoms. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose; excessive prolonged use in susceptible patients (alcoholics, ex-addicts, etc.) may result in dependence or habituation. Reduce dosage gradually after prolonged excessive dosage to avoid possible epileptiform seizures. Caution patients against driving or operating machinery until absence of drowsiness or dizziness is ascertained. Warn patients of possible reduction in alcohol tolerance. Safety for use in pregnancy has not been established.

Not indicated in children under 6 years; absolute dosage for 6 to 12 year-olds not established.

Side Effects: Therapy-interrupting side effects are rare. Transient mild drowsiness is common initially; if persistent, reduce dosage. Dizziness, vertigo and headache have also occurred infrequently; syncope, rarely. Mild paradoxical reactions (excitement, stimulation of affect) are reported in psychiatric patients. Minor diffuse rashes (morbilliform, urticarial and maculopapular) are rare. Nausea, lethargy, edema, slurred speech, tremor and altered libido are rare and generally controllable by dosage reduction. Although rare, leukopenia and hepatic dysfunction including jaundice have been reported during therapy. Periodic blood counts and liver function tests are advised. Ataxia, reported rarely, does not appear related to dose or age.

These side reactions, noted with related compounds, are not yet reported: paradoxical excitation with severe rage reactions, hallucinations, menstrual irregularities, change in EEG pattern, blood dyscrasias (including agranulocytosis), blurred vision, diplopia, incontinence, stupor, disorientation, fever, euphoria and dysmetria.

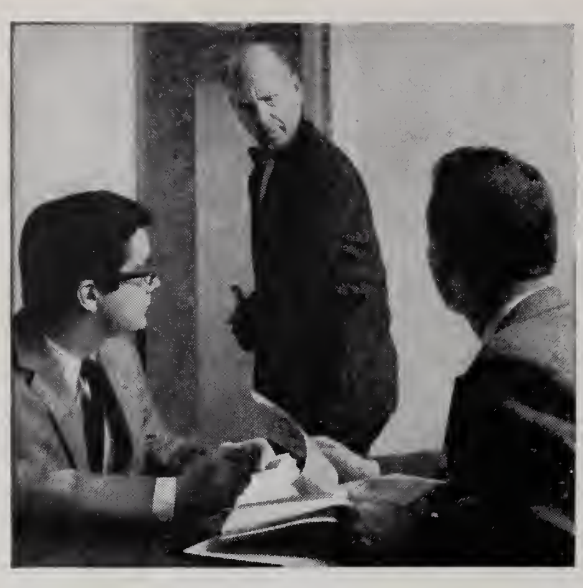
Availability: Capsules of 10, 15 and 30 mg. oxazepam.

To help you relieve anxiety and tension

Serax®
(oxazepam)

Wyeth® SERVICE TO MEDICINE

Wyeth Laboratories
Philadelphia, Pa.



He leaves to make an urgent call But doesn't use the phone at all

Parepectolin for quick relief of acute diarrhea
...soothes colicky pain with paregoric
...consolidates fluid stools with pectin
...adsorbs irritants with kaolin, and protects intestinal mucosa

Whether it's a 24-hour "bug", a food problem, or simply nervousness and anxiety, Parepectolin will bring the diarrhea under control until etiology can be determined. In some cases, Parepectolin may be all the therapy necessary.

Parepectolin®

Each fluid ounce of creamy white suspension contains:
Paregoric (equivalent) ..... (1.0 dram) 3.7 ml.
Contains opium (¼ grain) 15 mg. per fluid ounce.
warning: may be habit forming
Pectin ..... (2½ grains) 162 mg.
Kaolin (specially purified) .... (85 grains) 5.5 Gm.
(alcohol 0.69%)
Usual Adult Dose: One or two tablespoonfuls three times daily.

ROREER
WILLIAM H. RORER, INC.
Fort Washington, Pa.

Whenever the diet is faulty, the appetite poor, or the loss of food is excessive

through vomiting or diarrhea—

Valentine's MEAT EXTRACT

stimulates the appetite,
increases the flow of digestive juices,
provides: supplementary amounts of vitamins, minerals and soluble proteins,
extra-dietary vitamin B_{12},
protective quantities of potassium, in a palatable and readily assimilated form.

Supplied in bottles of 2 or 6 fluidounces.

DOSAGE *is 1 teaspoonful two or three times daily; two or three times this amount for potassium therapy. Dilute with two or more equal volumes of water.*

VALENTINE Company, Inc.
RICHMOND 21, VIRGINIA

"COCA-COLA" AND "COKE" ARE REGISTERED TRADE-MARKS WHICH IDENTIFY ONLY THE PRODUCT OF THE COCA-COLA COMPANY.

For the taste you never get tired of.

Today's Health
PUBLISHED BY THE American Medical Association
FOR THE AMERICAN FAMILY

A Good Buy in Public Relations

✶ Place it in your reception room

Today's Health is published for the American Family by the American Medical Association, 535 N. Dearborn St.—Chicago 10, Illinois

Give your subscription order to a member of your local Medical Society Woman's Auxiliary, who can give you Special Reduced Rates.

Every Virginia Doctor Should Have These Books!

The history of medicine in the Old Commonwealth from Jamestown to the beginning of the present century is a work every doctor should be proud to own. Complete and intensely interesting.

Medicine In Virginia

By Wyndham B. Blanton, M.D.
Published under the Auspices of
The Medical Society of Virginia

Reduced price to members of The Medical Society of Virginia
18th Century—$2.00
19th Century—$2.00

Order through

The Medical Society of Virginia
4205 Dover Road
Richmond 21, Virginia

Since 1880

Service with Satisfaction

THE WILLIAMS PRINTING COMPANY

RICHMOND, VIRGINIA 23219

INDEX TO ADVERTISERS

Abbott Laboratories ---- 16-18
Ames ---- 36
Appalachian Hall ---- 48
Bayberry Psychiatric Hospital ---- 57
Blue Cross-Blue Shield ---- 32
Boar's Head Inn ---- 81
Burroughs Wellcome & Co. ---- 43
Coca-Cola ---- 79
Ciba ---- 33
Clay's Rest Home ---- 48
Dorsey ---- 25-28, 53
DuPont ---- 67-69
Dyer, David A., Insurance ---- 8-9
Eli Lilly and Co. ---- 12-13, 40, 44-46, 54-56
Geigy ---- 50-51
Gill Memorial ---- 42
Highland Hospital ---- 52
Hynson, Westcott & Dunning, Inc. ---- 3
Jefferson, A. G. ---- 81
Johnston-Willis Hospital ---- 52
Jones and Vaughan ---- 7
Lakeside Laboratories ---- 11, 24, 37, Inside Back Cover
Lederle Laboratories ---- 21, 72-75
Medicine in Virginia ---- 79, 81
Wm. S. Merrell Company ---- 22-23
Parke, Davis & Company ---- Second Cover
Peoples Service Drug Stores ---- 82
Pitman-Moore ---- 58-59
Plyler's Nursing Home, Mrs. ---- 60
Poythress, William P., & Co. ---- 18
Richmond Eye Hospital—Richmond Ear, Nose and Throat Hospital ---- 60
Riverside Convalescent Home ---- 52
Robins, A. H. ---- 61, 62
Roche Laboratories ---- 34-35, Back Cover
Rorer, William H., Inc. ---- 6, 78
Saint Albans Psychiatric Hospital ---- 66
Searle, G. D. & Co. ---- 70-71
Smith Kline & French ---- 29
St. Elizabeth's Hospital ---- 66
St. Luke's Hospital ---- 57
Stuart Circle Hospital ---- 42
Syntex Laboratories ---- 30-31, 64-65
Terrace Hill Nursing Home ---- 63
Today's Health ---- 79
Tucker Hospital, Inc. ---- 63
Valentine Company, Inc. ---- 78
Williams Printing Co. ---- 80
Winthrop Laboratories ---- 5
Wyeth Laboratories ---- 15, 19, 20, 38-39, 76-77

Where
Doctors
Get Away
From It All
Without Going Far

WHAT other Virginia resort offers so many amenities for so few guests? Never a crowd—only 57 rooms, for country-estate atmosphere. . . Old Mill Room for candlelight dining in actual historic grist mill . . . King James Room for select meetings, private parties . . . Choice rooms have fireplace, private balcony, hand-hewn beams, mountain view, handcrafted furnishings.

New challenging short golf course opening April 1967 . . . All weather tennis courts . . . Lighted putting green . . . Pool . . . Two lakes for fishing . . . Riding, 18-hole golf arranged . . . Footpaths for strolling . . . Sauna . . . Private club (short memberships) on premises.

THE BOAR'S HEAD INN
CHARLOTTESVILLE, VIRGINIA
For reservations, brochure, phone 296-2181

Every Virginia Doctor Should Have These Books!

The history of medicine in the Old Commonwealth from Jamestown to the beginning of the present century is a work every doctor should be proud to own. Complete and intensely interesting.

Medicine In Virginia

By WYNDHAM B. BLANTON, M.D.
Published under the Auspices of
The Medical Society of Virginia

Reduced price to members of The Medical Society of Virginia
18th Century—$2.00
19th Century—$2.00

Order through
The Medical Society of Virginia
4205 Dover Road
Richmond 21, Virginia

For the
Discriminating
Eye Physician

Depend on the Services of a Guild Optician

in
Lynchburg, Virginia

A. G. JEFFERSON
Ground Floor **Allied Arts Bldg.**

Exclusively Optical

A sharp needle just burst her fairy-tale bubble

ONE OF A SERIES PUBLISHED REGULARLY BY PEOPLES DRUG STORES, IN THE DAILY PAPERS, TO KEEP THE PUBLIC INFORMED ON MATTERS OF HEALTH.

Sometimes it hurts to discover the sharp facts of life. But what a wonderful fact of life it is that she has all the advantages of modern medicine! With the help of men like you, Doctor . . . she'll grow up strong and sturdy to face a bright, promising future. Peoples Drug Stores are proud to be of service to you and the medical profession.

PEOPLES® PRESCRIPTION DRUG STORES

ALL PEOPLES DRUG STORES FILLED OVER 7 MILLION PRESCRIPTIONS IN 1966 • A MEASURE OF THE TRUST PEOPLE HAVE IN PEOPLES

DEPRESSION

NORPRAMIN®
(desipramine hydrochloride)

ANTIDEPRESSANT FOR RAPID IMPROVEMENT

At the recommended dosage level —initially, 150 mg. per day— gratifying remission of the signs and symptoms of depression typically begins in 2-5 days. Its specificity for depression, rapidity of action and usually mild side effects are significant reasons for prescribing NORPRAMIN (desipramine hydrochloride) in depression of any type . . . any degree of severity.

A few patients, sensitive to central nervous system stimulants may become restless as depression is lifted—in such cases dosage may be reduced or a tranquilizer added.

IN BRIEF:

INDICATIONS: In depression of any kind —neurotic and psychotic depressive reactions; manic-depressive or involutional psychotic reactions.

CONTRAINDICATIONS: Glaucoma, urethral or ureteral spasm, recent myocardial infarction, severe coronary heart disease, epilepsy. Should not be given within two weeks of treatment with a monoamine oxidase inhibitor.

RELATIVE CONTRAINDICATIONS: (1) Patients with a history of paroxysmal tachycardia. (2) Patients receiving concomitant therapy with thyroid, anticholinergics or sympathomimetics may experience potentiation of effects of these drugs. (3) Safety in pregnancy has not been established.

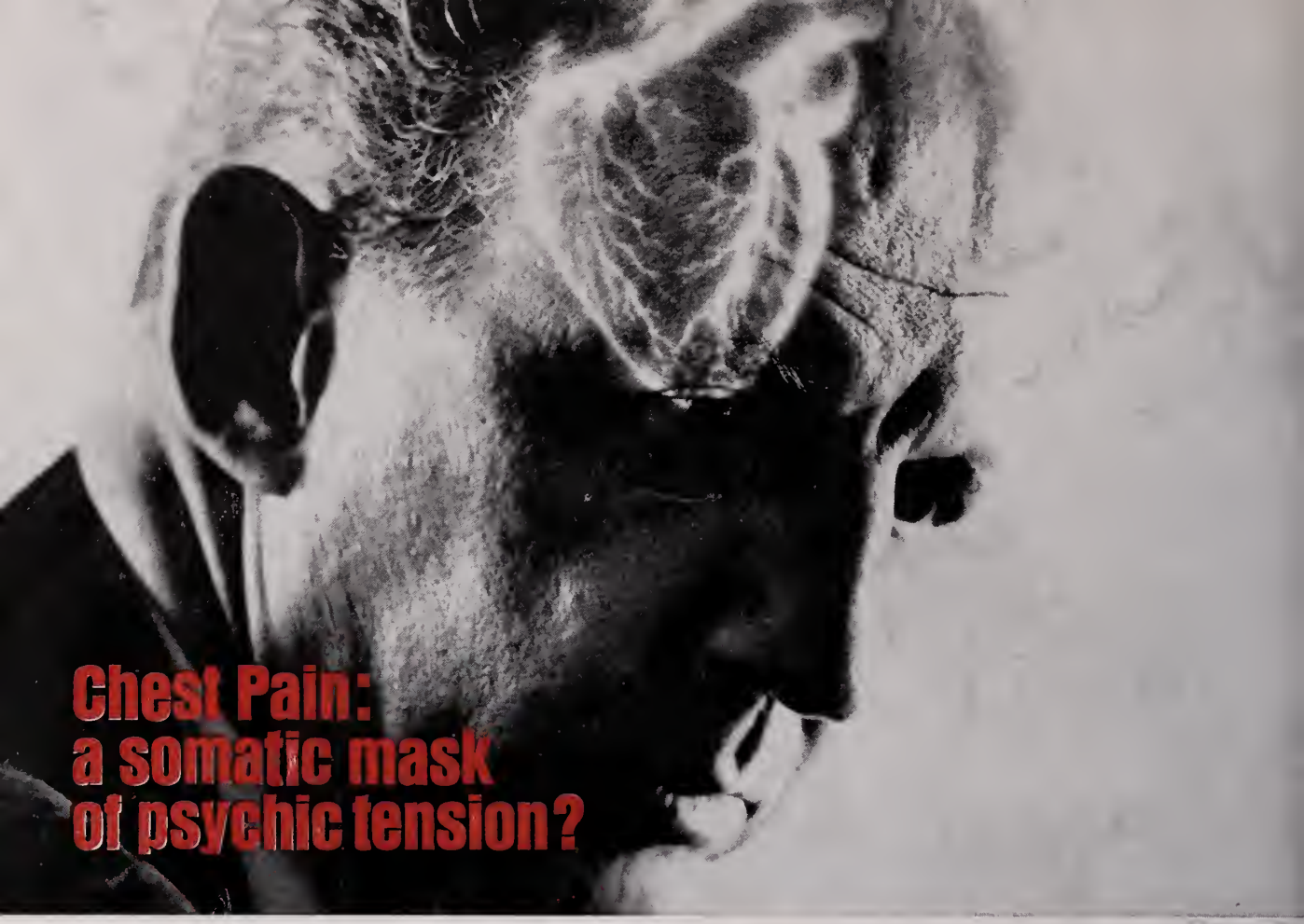
PRECAUTIONS: (1) Outpatient use of desipramine hydrochloride should not be substituted for hospitalization when risk of suicide or homicide is considered grave. (2) If serious adverse effects occur, reduce dosage or alter treatment. (3) In patients with manic-depressive illness a hypomanic state may be induced. (4) Discontinue drug as soon as possible prior to elective surgery.

ADVERSE EFFECTS: Side effects, usually mild, may include: dry mouth, constipation, dizziness, palpitation, delayed urination, "bad taste," sensory illusion, tinnitus, anxiety, agitation and stimulation, insomnia, sweating, drowsiness, headache, orthostatic hypotension, flushing, nausea, cramps, weakness, blurred vision and mydriasis, rash, tremor, allergy, agranulocytosis, altered liver function, ataxia, and extrapyramidal signs.

DOSAGE: Optimal results are obtained at a dosage of 50 mg., t.i.d. (150 mg./day). **SUPPLIED:** NORPRAMIN (desipramine hydrochloride) tablets of 25 mg.; bottles of 50, 500 and 1000; and tablets of 50 mg., in bottles of 30, 250 and 1000.

LAKESIDE

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201



"Heart symptoms"—chest pain, tachycardia, arrhythmia—invariably alarm and preoccupy the patient, though they may be completely without organic basis. Such symptoms often are somatic masks of psychic tension, arising from constant encounters with stressful situations.

When the problem is diagnosed as emotionally produced, consider Valium (diazepam) as adjunctive therapy. Valium (diazepam) acts rapidly to calm the patient, to reduce his psychic tension and relieve associated cardiovascular complaints.

NEUROTIC FATIGUE—the chronic tiredness resulting from emotional strain which so often accompanies psychogenic "heart" symptoms—also can be alleviated by this highly useful agent. Valium (diazepam) often achieves results where other psychotherapeutic agents have failed.

Valium (diazepam) is generally well tolerated, and usually does not impair mental acuity or ability to function. If side effects such as ataxia and drowsiness occur, they usually disappear with dosage adjustment.

Contraindications: Infants, patients with history of convulsive disorders or glaucoma.

Warning: Not of value in the treatment of psychotic patients, and should not be employed in lieu of appropriate treatment.

Precautions: Limit dosage to smallest effective amount in elderly patients (not more than 1 mg, one or two times daily) to preclude ataxia or oversedation. Advise patients against possibly hazardous procedures until correct maintenance dosage is established; driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. Warn patients of possible combined effects with alcohol. Safe use in pregnancy not established. Observe usual precautions in impaired renal or hepatic function and in patients who may be suicidal; periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

Side Effects: Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances and hallucinations) and changes in EEG patterns. Abrupt cessation after prolonged overdosage may produce withdrawal symptoms similar to those seen with barbiturates, meprobamate and chlordiazepoxide HCl.

Dosage — Adults: Mild to moderate psychoneurotic reactions, 2 to 5 mg b.i.d. or t.i.d.; severe psychoneurotic reactions, 5 to 10 mg t.i.d. or q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hrs, then 5 mg t.i.d. or q.i.d. as needed; muscle spasm with cerebral palsy or athetosis, 2 to 10 mg t.i.d. or q.i.d. Geriatric patients: 1 or 2 mg/day initially, increase gradually as needed.

Supplied: Tablets, 2 mg, 5 mg and 10 mg; bottles of 50 for convenience and economy in prescribing.

Roche Laboratories Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

for somatic symptoms of psychic tension

2-mg, 5-mg, 10-mg tablets

Valium®
(diazepam)

ROCHE

LIBRARY
SHELVES

VIRGINIA MEDICAL MONTHLY

when it counts...
Chloromycetin®
(chloramphenicol)

PARKE-DAVIS

PARKE, DAVIS & COMPANY, Detroit, Michigan 48232

Complete information for usage
available to physicians upon request.

01966

Lutrexin®

HW&D BRAND OF LUTUTRIN

3000 UNIT TABLETS

IN THE TREATMENT OF FUNCTIONAL DYSMENORRHEA AND SELECTED CASES OF PREMATURE LABOR AND 2ND AND 3RD TRIMESTER THREATENED ABORTION

In controlling abnormal uterine activity, LUTREXIN, the non-steroid "uterine relaxing factor" has been found to be the drug of choice by many clinicians.

No side effects have been reported, even when massive doses (25 tablets per day) were administered.

Literature on indications and dosage available on request.

Supplied in bottles of twenty-five 3,000 unit tablets.

HYNSON, WESTCOTT & DUNNING, INC.

BALTIMORE, MARYLAND 21201

(LTR22)

in vivo measurement of LUTREXIN (Lututrin) on contracting uterine muscle

VIRGINIA MEDICAL MONTHLY

(Founded by Landon B. Edwards, M.D., April, 1874)

PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF VIRGINIA

4205 DOVER ROAD, RICHMOND, VIRGINIA 23221

EDITORIAL BOARD

HARRY J. WARTHEN, M.D.
Chairman and Editor

H. LAMONT PUGH, M.D.
Vice Chairman

C. V. CIMMINO, M.D.

CHARLES E. DAVIS, JR., M.D.

J. SHELTON HORSLEY, III, M.D.

GORDON W. JONES, M.D.

WILLIAM H. KAUFMAN, M.D.

JOHN A. MARTIN, M.D.

ROBERT MITCHELL, JR., M.D.

JAMES M. MOSS, M.D.

W. T. THOMPSON, JR., M.D.

E. SPENCER WATKINS
Managing Editor
4205 Dover Road
Richmond, Virginia 23221

Annual Subscription—$2.00
Single Copies—25¢

TABLE OF CONTENTS

GUEST EDITORIAL

Medicare and Welfare Departments—*R. G. McAllister, M.D.* 143

ORIGINAL ARTICLES

Detection of Carcinoma of the Cervix Uteri by Cytologic Screening—*Richard E. Palmer, M.D.* 146

Psychiatric Symptoms that Signal Organic Disease—*R. Terrell Wingfield, M.D.* 153

The Development of Ophthalmology and Otolaryngology in Virginia—*M. K. Humphries, Jr., M.D.* 158

Twenty-Three Cases of Attempted Suicide with Firearms—*J. I. de la Torre, M.D.*, and *H. S. Abram, M.D.* 165

A Group Method of Mobilizing Clergymen to Meet Community Mental Health Needs—*John H. Parks, M.D.*, and *Frank Kimper, Ph.D.* 170

CLINICOPATHOLOGICAL CONFERENCE

Cerebral Deterioration Following Surgery for Meningioma 177

DIAGNOSTIC LABORATORY MEDICINE

Current Concepts in the Serological Diagnosis of Syphilis—*M. J. Allison, Ph.D.*, and *H. P. Dalton, Ph.D.* 186

PUBLIC HEALTH

VD Must Be Reported 188

MENTAL HEALTH

Mental Hygiene Clinics—*Julian C. Housman* 191

EDITORIAL

Continuing Medical Education—*James M. Moss, M.D.* 193

Dr. Kendig's New Book—*Harry J. Warthen, M.D.* 194

NEWS 196

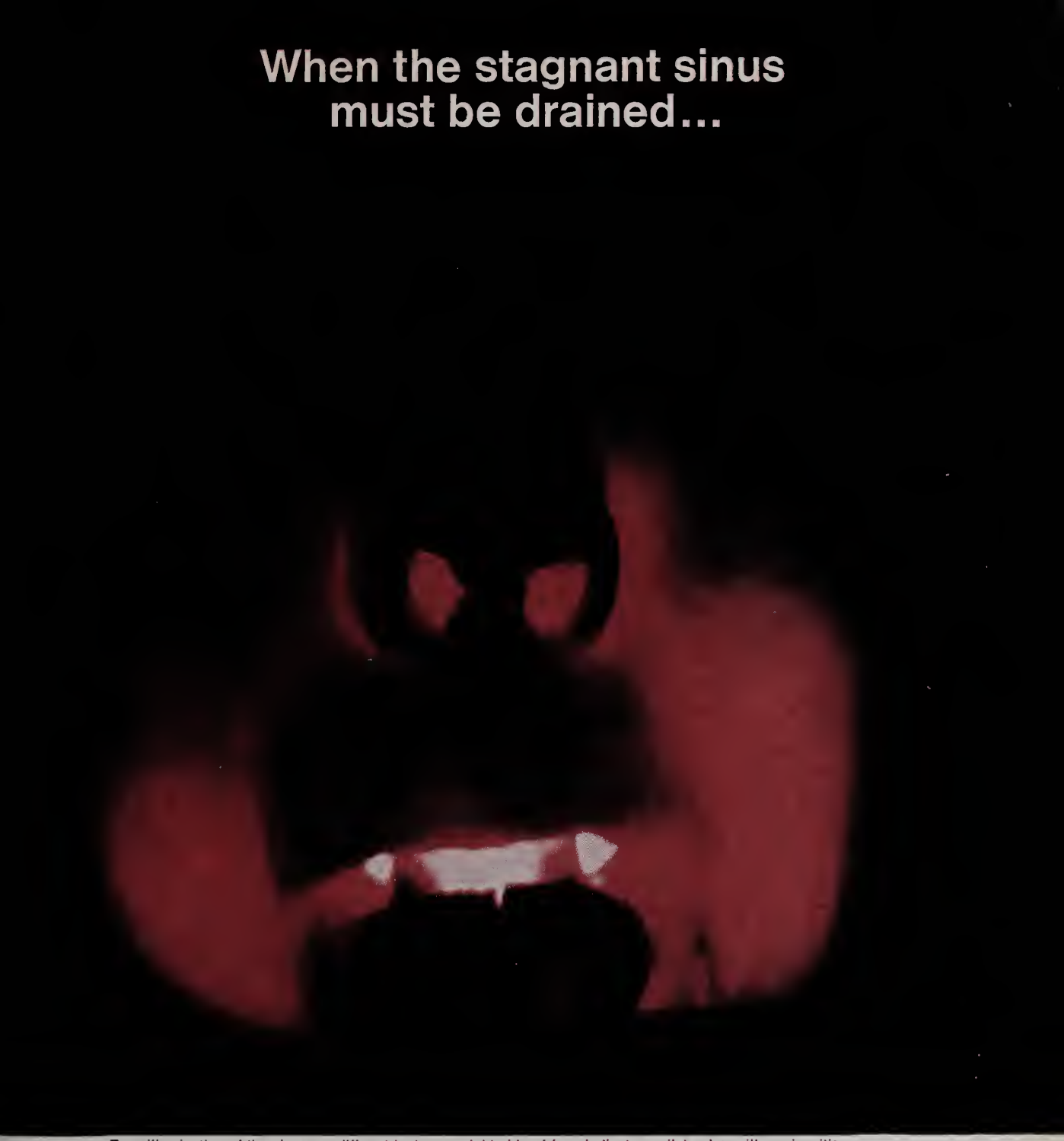
OBITUARIES 200

The MONTHLY is not responsible for the opinions and statements of its contributors.
All advertisements are accepted subject to the approval of the Editorial Board.

Second Class Postage paid at Richmond, Virginia.

INDEX TO ADVERTISERS—Page 74

When the stagnant sinus must be drained...



Transillumination of the sinuses – diffuse shadow on right side of face indicates unilateral maxillary sinusitis.

In the common cold, Neo-Synephrine is unsurpassed for reducing nasal turgescence. It stops the stuffy feeling at once. It opens sinus ostia to re-establish drainage and lessen the chance of sinusitis. With Neo-Synephrine, in the concentrations most commonly used, decongestion lasts long enough for extended breathing comfort, without endangering delicate respiratory tissue. Systemic side effects are virtually unknown. There is little rebound tendency.

Winthrop Laboratories, New York, N.Y. 10016 Winthrop

Neo-Synephrine® HCl

Brand of phenylephrine hydrochloride

is available in a variety of forms, for all ages:

- 1/8% solution for infants
- 1/4% solution for children and adults
- 1/4% pediatric nasal spray for children
- 1/2% solution for adults
- 1/2% nasal spray for adults
- 1/2% jelly for children and adults
- 1% solution for adults (resistant cases)

Also NTZ® Solution or Spray
Antihistamine-decongestant

(1028H)

OFFICERS AND COUNCILORS OF THE MEDICAL SOCIETY OF VIRGINIA 1966-67

President—K. K. Wallace, M.D., Norfolk
President-Elect—Thomas W. Murrell, Jr., M.D., Richmond
Past-President—Alexander McCausland, M.D., Roanoke
Vice-Presidents—Hugh G. Stokes, M.D., Williamsburg
Francis H. McGovern, M.D., Danville
James M. Moss, M.D., Alexandria
Executive Secretary-Treasurer—Robert I. Howard, Richmond
Speaker of the House—W. Callier Salley, M.D., Norfolk
Vice-Speaker—Thomas S. Edwards, M.D., Charlottesville

COUNCILORS

F. Ashton Carmines, M.D., Newport News
William S. Hotchkiss, M.D., Norfolk
William R. Hill, M.D., Richmond
William Grossmann, M.D., Petersburg
W. Nash Thompson, M.D., Stuart
Harry B. Stone, M.D., Roanoke
Dennis P. McCarty, M.D., Front Royal
W. D. Liddle, M.D., Fredericksburg
W. W. Walton, M.D., Pulaski
Carl P. Parker, M.D., Falls Church

DELEGATES AND ALTERNATES TO THE AMERICAN MEDICAL ASSOCIATION

Delegates
1966-67
W. Linwood Ball, M.D., Richmond
Allen Barker, M.D., Roanoke
1967-68
W. Callier Salley, M.D., Norfolk

Alternates
1966-67
Alexander McCausland, M.D., Roanoke
Russell Buxton, M.D., Newport News
1967-68
Richard E. Palmer, M.D., Alexandria

(*Committees on pages* 10 *and* 14)

REPRINT PRICES OF ARTICLES IN THE VIRGINIA MEDICAL MONTHLY

Trim Size: 8 x 11 inches

No. of copies	100	200	250	500	750	1000	1500	2000
1 page	$8.30	$8.90	$9.20	$10.70	$12.20	$13.70	$16.70	$19.70
2 Pages	9.45	10.20	10.60	12.45	14.35	16.20	19.95	23.70
4 Pages	19.85	21.70	22.65	27.25	31.88	36.50	45.75	55.00
8 Pages	47.87	50.15	51.30	57.00	62.70	68.40	79.80	91.20
12 Pages	77.90	82.65	85.05	96.90	108.80	120.65	144.40	168.15
16 Pages	95.74	100.30	102.60	114.00	125.40	136.80	159.60	182.40
Cover	15.20	18.65	20.40	29.00	37.45	46.25	73.50	80.75
Envelope—blank	2.80	5.60	7.00	14.00	21.00	28.00	42.00	56.00
Envelope—printed	7.98	11.16	12.70	20.70	28.60	36.60	52.50	68.40

PRICES F.O.B. RICHMOND, VA.

Orders must be placed before type is distributed.

THE WILLIAMS PRINTING CO.

11-13-15 North 14th Street **Richmond, Virginia 23219**

raldrate

(SYRUP OF CHLORAL HYDRATE)

A palatable chloral hydrate syrup containing 10 grains in each teaspoonful.

J. and V.

JONES and VAUGHAN
Richmond 26, Virginia

DISABILITY INCOME INSURANCE

REASONS WHY

3

If you are disabled by sickness or accident and unable to work, your income stops.

Where do you get the money . . . .

. . **that you normally spend on food?**

. . **that you normally spend on shelter?**

. . **that it takes to maintain your office?**

There is no question how your income will continue if you enroll in the DISABILITY INCOME PLAN which is sponsored and recommended by THE MEDICAL SOCIETY OF VIRGINIA.

With these outstanding features:

✓ Benefits paid directly to you. You spend the money any way you want;

✓ This plan is yours until age 75; (Plan A or Plan B)

✓ Under Plan A—Benefits paid to age 65 for sickness—lifetime for accident.

As an example: If you were disabled at Age 50 it would be possible for you to collect $144,000.00 (15 years at $800.00 per month)—NOT 5 years. At younger ages the amount possible to collect is much greater.

Protect your earnings and ability to pay. Get complete details during the Open Enrollment Period—now in progress.

Mail to

David A. Dyer Insurance Agency
Medical Arts Building
Roanoke, Virginia 24011

Dave,

I have enough problems without having to worry about how I'll pay the rent, the grocery bills, or keep the office open if I'm disabled. Please rush to me, without obligation, all the facts on the Disability Income Program for physicians and surgeons, underwritten by Insurance Company of North America, Phila., Pa.

Name _____

Address _____
Street

_____
(City) (State) (Zip)

Underwritten by The Insurance Company of North America, Philadelphia, Pa.

when was your last check-up?

Have YOU failed to make certain that you're well protected from the high costs of accident and sickness? If so, your budget is in danger of shattering any day now.

THE MEDICAL SOCIETY OF VIRGINIA has just the thing to relieve your anxieties about possible severe financial loss from accident or sickness:

- **Professional OVERHEAD Expense** to pay those fixed office expenses for you while you can't practice . . . and keep your office open!
- **"Catastrophic" HOSPITAL-NURSE Expenses** to meet those unexpected high costs from serious accident or sickness disability!

Both Plans go to work immediately, protecting your budget with their LOW-COST, BROAD COVERAGE ingredients.

Call us today—collect. Find out why The Medical Society of Virginia has selected these sensible Insurance Plans as the best available to its Members. We'll send you more information. No obligation, of course.

(But, plenty of smart financial advice!)

ADMINISTRATOR: David A. Dyer
Medical Arts Building,
Roanoke, Virginia 24011
Phone: 344-5000

Both Plans underwritten by:

AMERICAN CASUALTY COMPANY
OF READING, PENNSYLVANIA • 19603

DIARRHEA

CANTIL®
(mepenzolate bromide)

LAKESIDE

Diarrhea, one of the most vexing symptoms of common G. I. disorders can often be curbed with Cantil (mepenzolate bromide), bringing welcome relief to the harassed patient. Relatively specific for the hyperactive colon, it helps reduce diarrhea, pain and spasm with minimal effect on other viscera. Cantil (mepenzolate bromide) is indicated whenever these symptoms are associated with irritable colon, gastroenteritis, diverticulitis, and mild to moderate ulcerative colitis.

It is an anticholinergic drug without narcotic properties. Side effects are usually mild.

IN BRIEF: One or two tablets three times a day and one or two at bedtime usually provide prompt relief. Cantil with Phenobarbital may be prescribed if sedation is required.

Dryness of the mouth, blurring of vision, constipation, nausea, vomiting, bloating and dizziness may occur but are usually mild and transitory. Urinary retention is rare. Caution should be observed in prostatic hypertrophy — withhold in glaucoma. Contraindicated in patients sensitive to phenobarbital and/or Cantil (mepenzolate bromide); in toxic megacolon, obstruction of G. I. or G. U. tract.

SUPPLIED: CANTIL (mepenzolate bromide) — 25 mg. per scored tablet. Bottles of 100 and 250. CANTIL with PHENOBARBITAL — containing in each scored tablet 16 mg. phenobarbital (warning: may be habit forming) and 25 mg. mepenzolate bromide. Bottles of 100 and 250.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

"Take a laxative" is a harsh sentence

Although there are more than 60 ethical laxatives available for the constipated patient, many, unfortunately, do not really produce an effect much like a normal bowel movement. Instead they whip the bowel, torment it and leave it irritated, inflamed and exhausted.
On the other hand, Dulcolax provides a nearly normal movement. Through its unique contact action, it induces the kind of natural contraction waves of the colon necessary for gentle, complete, comfortable bowel movements.
For your next constipated patient, try Dulcolax–the laxative with the gentle touch.

Dulcolax, brand of bisacodyl tablets (5 mg.)

Under license from Boehringer Ingelheim G.m.b.H.

Geigy Pharmaceuticals
Division of
Geigy Chemical Corporation
Ardsley, New York

Dulcolax®
a gentle persuasion

Geigy

Against these three major pathogens...

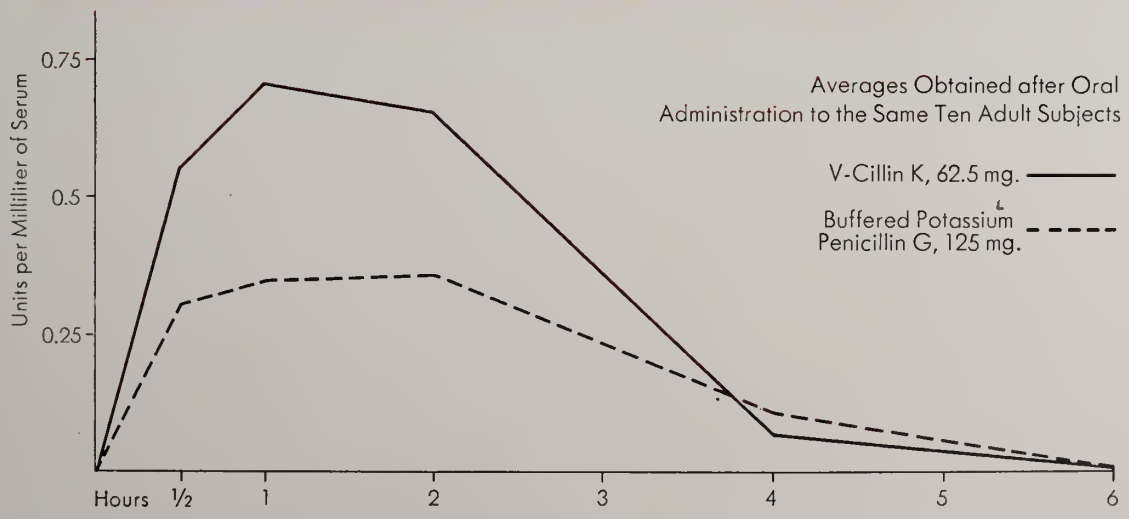
V-Cillin K® provides unexcelled oral antibacterial activity

because it combines a high degree of in-vitro activity...

Antibiotic	Staph. Aureus (Penicillin-Sensitive) MIC (mcg./ml.) Median	Range	Streptococcus, Group A MIC (mcg./ml.) Median	Range	Diplococcus Pneumoniae MIC (mcg./ml.) Median	Range
Penicillin V	0.02	0.02-0.04	0.02	0.003-0.4	0.01	0.005-0.2
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269 1019, 1963.

with high blood levels, even in the presence of food



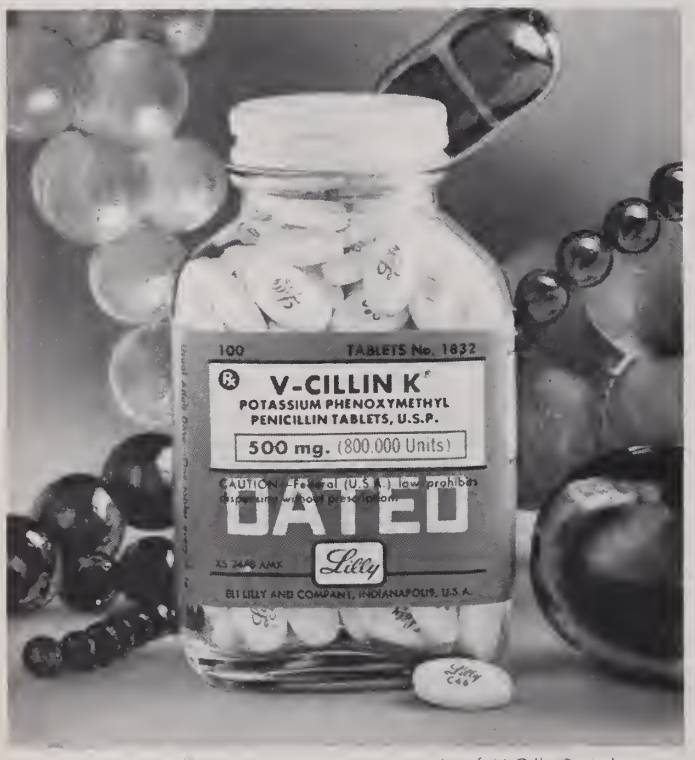
Adapted from Griffith, R. S., and Black, H. R.: Current Ther. Res., 6 253, 1964.

V-Cillin K® Lilly 700157

Potassium Phenoxymethyl Penicillin

(See next page for prescribing information.)

New 500 mg. tablets...a more convenient way to give high doses



Description: V-Cillin K is the potassium salt of V-Cillin® (phenoxymethyl penicillin, Lilly). This chemically improved form combines acid stability with immediate solubility and rapid absorption. Higher serum levels are obtained more rapidly with this penicillin than with equal oral doses of penicillin G. The higher serum levels and acid stability of V-Cillin K make it a more dependable penicillin for oral use.

V-Cillin K, Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed, each 5 cc. (approximately one teaspoonful) will contain 125 mg. (200,000 units) phenoxymethyl penicillin as the potassium salt.

Indications: V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

Contraindication: V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

Precautions: V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy. Reactions occur more frequently in individuals with bronchial asthma or other allergies or in those who have previously demonstrated sensitivity to penicillin. If hypersensitivity reactions occur, the drug should be discontinued.

Adverse Reactions: Although serious allergic reactions are much less common with administration of oral penicillin than with intramuscular forms, skin rash, symptoms resembling those of serum sickness, or other manifestations of penicillin allergy may occur. When penicillin is administered, measures for treating anaphylaxis should be readily available. Those include epinephrine, oxygen, and pressor drugs for relief of immediate allergic manifestations as well as antihistamines and corticosteroids for delayed effects.

The use of antimicrobial agents may be associated with the overgrowth of antibiotic-resistant organisms, in such a case, antibiotic administration should be stopped and appropriate measures taken.

Administration and Dosage: For Tablets V-Cillin K and for V-Cillin K, Pediatric, the usual dosage ranges from 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants, the daily dosage may be 50 mg per Kg. of body weight divided into three doses.

Beta-hemolytic streptococcus infections without associated bacteremia may be treated with 200,000 to 400,000 units three times a day. Theropy should be continued for a minimum of ten days to prevent development of rheumatic fever and/or other serious complications. Dosage for routine streptococcus prophylaxis in patients with a history of rheumatic fever or congenital heart disease may be 200,000 units once or twice daily. When such patients undergo tonsillectomy, tooth extraction, or other minor surgery, the prophylactic dose should be 500,000 units every six hours given two days prior to surgery and for two days postoperatively. If oral medication is not feasible on the day of surgery, parenteral therapy should be considered. Mild to moderately severe pneumococcus pneumonia has been treated effectively with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be given every six to eight hours in conjunction with indicated surgical procedures.

For gonorrhea in males, 500 mg. (800,000 units) every six hours for three doses may be employed; in females, 500 mg. every four hours for six doses are recommended. Patients with a suspected lesion of syphilis should have a dark-field examination before receiving penicillin and monthly serologic tests for a minimum of three months.

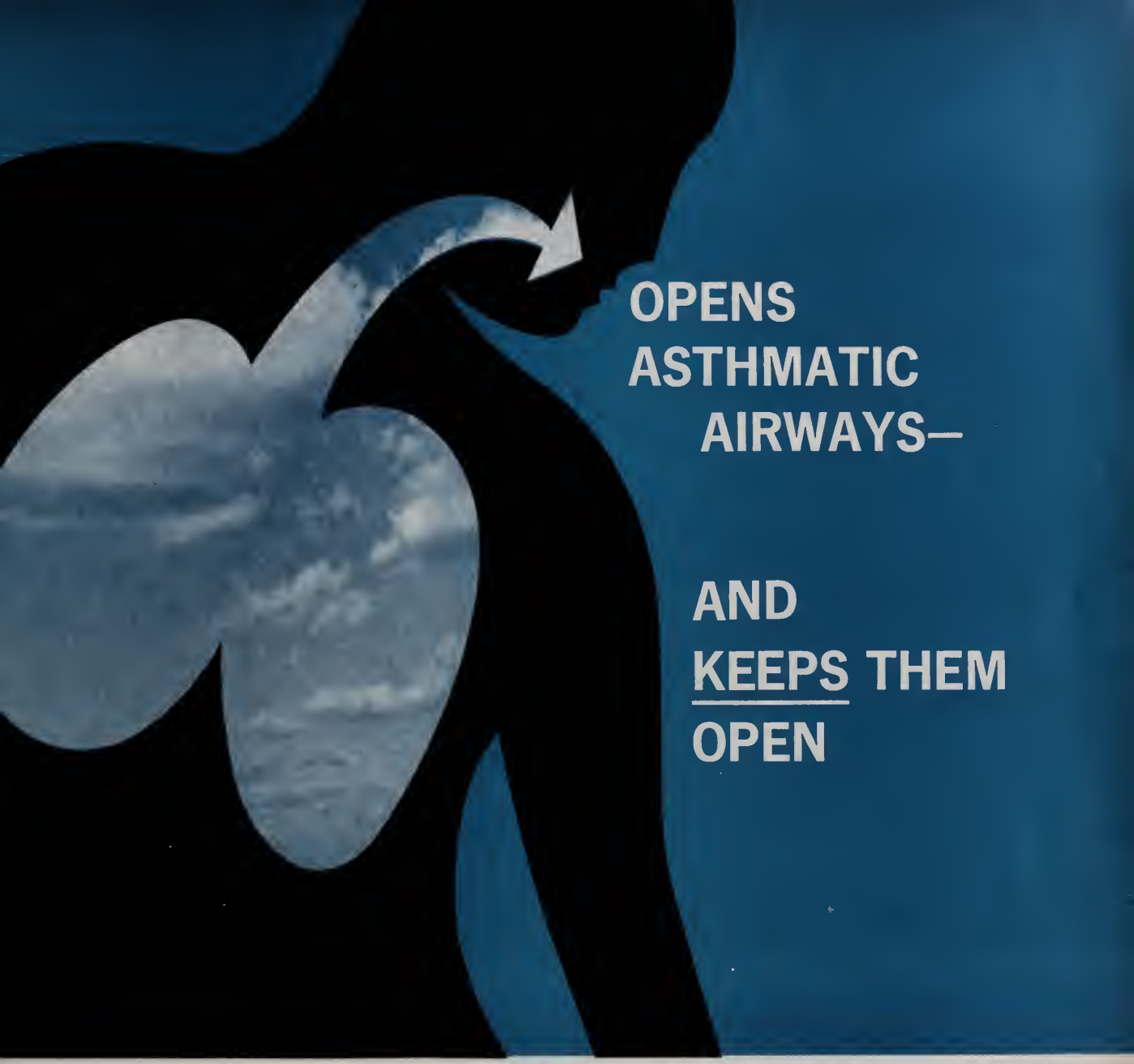
How Supplied: Tablets V-Cillin K, U.S.P., 125 mg (200,000 units), in bottles of 50 and 100; 250 mg. (400,000 units), and 500 mg. (800,000 units) in bottles of 24 and 100.

V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) per 5 cc. of solution, in 40, 80, and 150-cc.-size packages.

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.

Lilly

70015



NUMA® DURA-TABS®

for *prolonged* aid to ventilation

Each Numa Dura-Tab provides:

theophylline	225 mg.
ephedrine HCl	50 mg.
butabarbital	25 mg.

(Warning: butabarbital may be habit-forming.)

Numa Dura-Tabs provide *prolonged* three-way action to ease breathing. Theophylline, a potent bronchodilator with minimal effect on the CNS, opens air passages and reduces bronchial spasm. Ephedrine HCl improves breathing capacity through its decongestant action. Butabarbital, a mild sedative, allays fear and apprehension.

Dosage: One Numa Dura-Tab every 8 to 12 hours helps keep the asthmatic patient symptom-free all day/all night.

Precautions: Use with caution in cardiovascular or hyperthyroid disease, severe hypertension, circulatory collapse, prostatic hypertrophy, or glaucoma.

WYNN Pharmaceuticals, Inc. Phila., Pa. 19132 • Manufacturers of QUINAGLUTE® DURA-TABS®

(quinidine gluconate 5 gr.)

INFLAMMATION:
A cellular fight for life

A SYNTEX REPORT based on recently developed hypotheses about topical corticosteroids, including the cellular theories of inflammation by Thomas F. Dougherty, Ph.D., University of Utah.

You are looking at a fibroblast fighting for life. This cell—one of the most common found in connective tissue—has literally been poisoned by cytotoxins released from other cells that have ruptured. Soon, if the abnormal activity of this fibroblast does not cease, it, too, will rupture and die—one more casualty in the inflammatory wave of destruction precipitated by injury.

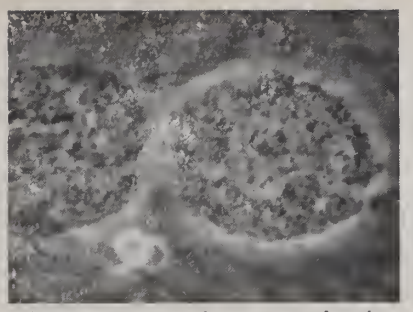
Until a short time ago no one had ever witnessed such a scene at the cellular level. Now, through advanced cinemicrographic techniques, it is possible to view and photograph the inflammatory process as produced experimentally in living animal tissue. This method permits new insight into the mechanism of inflammation and the role of corticosteroids in therapeutic management. Equally important, these techniques shed new light on factors that may make one corticosteroid more effective than another—factors that can be correlated with other chemical, biologic, and clinical parameters.

Visual evidence of how corticosteroids influence the inflammatory reaction

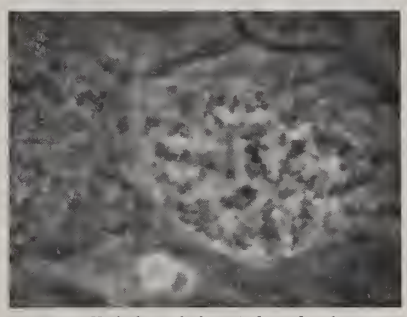
Working with phase-contrast cinemicrography on living animal tissue, Doctors Thomas F. Dougherty and David Berliner of the University of Utah College of Medicine have actually filmed cellular events that occur during the inflammatory reaction. This remarkable study* and additional work by these investigators, as well as by others, have established a new theoretical biologic basis for the antiinflammatory effect of the corticosteroids. (It must be noted that other theories, such as the lysosome or so-called "suicide bag" theory, have been postulated, although it is quite likely that there are more similarities than differences among the various theoretical models.)

The inflammatory wave of destruction

In this investigation an injurious injection of gelatin is used to set off an inflammatory reaction in living mouse tissue. What follows is a wave of destructive cellular activity that comprises the inflammatory response to injury. Mast cells (which contain heparin, serotonin and histamine) take up water, swell and rupture, releasing their contents, which are toxic outside the mast cell wall. These toxins, in turn, cause disintegration of other cells (such as fibroblasts) and the release of additional toxic material. Capillaries, too, take up water and leak unformed blood elements, causing edema. And polymorphonuclears, lymphocytes and perithelial cells invade the inflamed site. As a result of all these changes, the cellular environment reaches a state of turmoil.



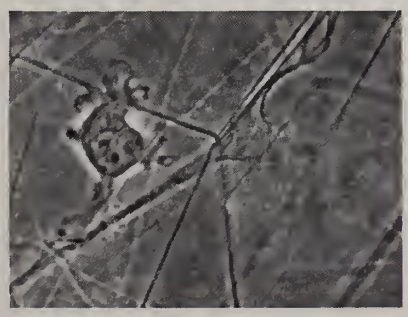
Phase-contrast microscopy showing mast cell before injury.



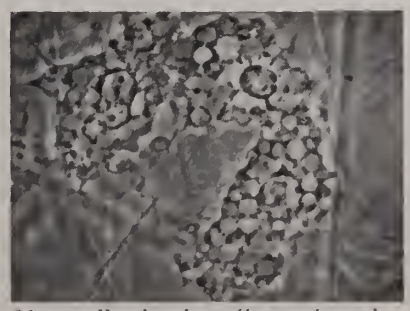
Mast cell (after injury) has broken up and released cytotoxins.

How corticosteroids change the picture

Corticosteroids appear to virtually stop the abnormal cellular activity that constitutes the inflammatory reaction. This permits the body's natural resources to clear up the inflamed area and repair the damaged tissue. This interpretation is supported by the fact that when the injurious gelatin solution is injected simultaneously with a corticosteroid – Synalar (fluocinolone acetonide) – the inflammatory pattern simply does not develop.



Fibroblast in high state of activity, much distorted.



Mast cells showing effects of corticosteroid action: cells are normal in size, shape and activity.

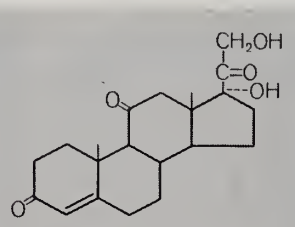
In summarizing his study Doctor Dougherty states: "...we also feel this work may explain why one corticosteroid helps a patient more rapidly and effectively than another. If it does, it is because one corticosteroid is the fastest, most effective inhibitor of the series of inflammatory events at the tissue level."

A New View of Corticosteroid Action in Inflammatory Dermatoses, a film based on this study, is now available from your Syntex representative.

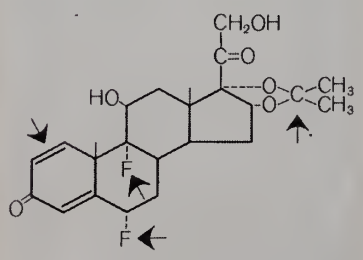
See last page for contraindications, precautions, side effects and dosage.

How advances in chemical design have achieved greater steroid potency

The chemical modification of corticosteroid molecules from the advent of hydrocortisone to the development of Synalar (fluocinolone acetonide) is a prime example of how biochemists can "design" to increase therapeutic activity and minimize undesirable side actions. Below, for example, we see the important changes that were made in reference to the hydrocortisone molecule to produce fluocinolone acetonide, one of the most active of all topical corticosteroids. As a result, a 0.01% preparation of Synalar (fluocinolone acetonide) has been reported to do the work of a 1% hydrocortisone product containing 100 times more cortiscosteroid. And it can often do it more effectively.



Hydrocortisone

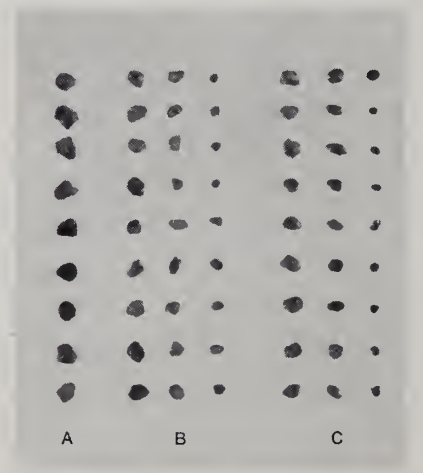


Fluocinolone Acetonide (Synalar)

- *a double bond between carbons 1 and 2*
- *fluorine substitutions at* both *the 6-α, and the 9-α positions*
- *the addition of the acetonide at the 16-α, 17-α positions, thus providing one of the most potent topical corticosteroids available.*

How bioassay tests are used to "predict" therapeutic potential

Biologic assays are another tool used by researchers to help establish the relative activity of corticosteroids. To date no single method of assaying corticosteroid activity has emerged as the ideal "yardstick" for predicting therapeutic potential. Taken together, however, these methods have proved useful. When such tests are run on various corticosteroids, a definite order of corticosteroid activity becomes evident. Compounds with the highest order of activity may be expected to merit clinical trial to establish their high therapeutic potential. When assayed by these methods, fluocinolone acetonide (Synalar) emerges as one of the most active topical corticosteroids, milligram for milligram, available for clinical application today.



THE THYMUS INVOLUTION ASSAY[1-4] is run on adrenalectomized rats. The sizes of the glands are measured, and the degree of involution caused by the steroid is determined as an indication of its potency. In the above photo, the comparative involution of thymus glands achieved with hydrocortisone and Synalar (fluocinolone acetonide) is shown. Untreated controls (A) show normal size. Group B – injected with 1, 2 and 4 mg. of hydrocortisone – show progressively smaller thymuses as does Group C – injected with fluocinolone acetonide – but with only 1/500th the dose of hydrocortisone.

THE ANTIGRANULOMA ASSAY[1-4] also utilizes adrenalectomized rats. Granulomas are induced by subcutaneous implantation of cotton pellets on either side of the thorax. The degree of granuloma inhibition achieved by a steroid reflects its potency. The above photo shows the inhibition of granuloma formation achieved with hydrocortisone and Synalar (fluocinolone acetonide). Untreated controls (A) show large, red granulomas adhering to the pellets. Group B, receiving hydrocortisone and Group C, receiving fluocinolone acetonide, show little, if any, granuloma formation. Fluocinolone acetonide produced the same effect as hydrocortisone with only 1/500th the dose. This assay, as well as the thymus involution assay, measures systemic rather than topical corticosteroid activity. Nevertheless, results by these methods correlate well with other assays and with the milligram potencies of topical steroids in current clinical use.

Worldwide clinical experience confirms the predictable therapeutic potential of Synalar

It is particularly gratifying that the promise of the advanced chemical design and high order of bioassay activity of Synalar (fluocinolone acetonide) has been confirmed by widespread therapeutic application. Indeed, the impressive clinical response rate of Synalar has been documented in no fewer than 232 papers from 22 countries.

Representative Clinical Results with Synalar*

Efficacy Documented in over 4,000 Patients

Condition	Number of Publications	Number of Patients	Significant Improvement†
Contact Dermatitis	27	750	713
Eczematous Dermatitis	21	472	409
Seborrheic Dermatitis	18	442	426
Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
Total	144	4,174	3,808

*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

PRESCRIBING INFORMATION

For initiation of therapy: Cream 0.025%, 5 and 15 Gm. tubes, 425 Gm. jars; *for emollient effect:* Ointment 0.025%, 15 Gm. tubes; *for maintenance therapy:* Cream 0.01%, 15 and 45 Gm. tubes, 120 Gm. jars; *for intertriginous or hairy sites:* Solution 0.01%, 20 cc. and 60 cc. plastic squeeze bottles; *for infected inflammatory dermatoses:* Neo-Synalar® Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes.

CONTRAINDICATIONS: Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components. PRECAUTIONS: Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. SIDE EFFECTS: Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

REFERENCES: 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. Ann NY Acad Sci 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. Proc Soc Exp Biol Med 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: Methods of hormone research, New York, Academic Press, 1964. vol. III. pp. 234-280. 4. Gubersky, V. R.: To be published.

fluocinolone acetonide — an original steroid from

SYNTEX

LABORATORIES INC., PALO ALTO, CALIF.

For inflammatory dermatoses... by any measure a topical corticosteroid of choice

Synalar® (fluocinolone acetonide)

Milligram for milligram one of the most active topical corticosteroids available

Rapid and predictable in antiinflammatory and antipruritic activity

Results often comparable to those of systemic corticosteroids with fewer hazards

Wounds, abscess, cellulitis

...and the complications of staph.

From time of birth, the child is exposed to a whole range of potential staph infections: wounds; secondarily infected dermatoses; primary lesions, such as deep impetigo (ecthyma), boils and felons; and more serious conditions such as osteomyelitis, staph pneumonia and staph meningitis.

Bactericidal

Hardly a staph organism can resist the bactericidal action of Prostaphlin® (sodium oxacillin), as shown by a 34-month *in vitro* study. Of all staph isolates tested, 99.5% were sensitive to oxacillin.[1]

Clinically Proven

There is a high correlation between these *in vitro* findings and clinical results. Of 610 patients treated with Prostaphlin (sodium oxacillin), 89.8% were reported cured or improved, including those with staph infections resistant to penicillin G.[2] And since resistance does not appear to develop *in vivo,* therapy with oxacillin can be extended when necessary.

Outstanding Safety Record

Besides being staph-specific and rapidly absorbed—Prostaphlin (sodium oxacillin) has established an outstanding record of safety during five years of widespread clinical use. Continuous high blood levels of oxacillin have not produced toxic effects on kidney function, assuring a significant margin of safety. However, as with all penicillins, the possibility of allergic response should be considered.

Capsules, Oral Suspension and Injectable

Prostaphlin (sodium oxacillin) is available in three flexible dosage forms to suit the age of the patient and severity of infection—an oral solution for pediatric use, capsules, and multi-dose vials for injection.

Staph reliably controlled with specific therapy

A suitable dosage form for every staph situation

PRESCRIBING INFORMATION: For complete information, consult Official Package Circular. *Indications:* Infections caused by Staphylococci, particularly those due to penicillin G-resistant Staphylococci. *Contraindications:* A history of severe allergic reactions to penicillin. *Precautions:* Typical penicillin-allergic reactions may occur. Safety for use in pregnancy and premature infants is not established. Because of limited experience, use cautiously and evaluate organ system function frequently in neonates. Mycotic or bacterial superinfections may occur. Assess renal, hematopoietic and hepatic function intermittently during long-term therapy. *Adverse Reactions:* Skin rashes, pruritus, urticaria, eosinophilia, nausea, vomiting, diarrhea, fever and occasional anaphylaxis. Rare cases of reversible hepatocellular dysfunction have occurred. Moderate SGOT elevations have been noted. Thrombophlebitis has occurred occasionally during intravenous therapy and leukopenia was noted in two cases. *Usual Oral Dosage:* Adults: 500 mg. *q.* 4 or *q.* 6 *h.* Children: 50 mg./Kg./day. *Usual Parenteral Dosage:* Adults: 250-500 mg. *q.* 4 or *q.* 6 *h.* Children: 50 mg./Kg./day. Treat beta-hemolytic streptococcal infections for at least 10 days. Give oral drug 1 to 2 hours before meals. *Supplied:* Capsules—250 and 500 mg. in bottles of 48. Injectable—250 mg., 500 mg., and 1 Gm. dry filled vial for I.M./I.V. use. For Oral Solution—100 ml. bottle, 250 mg./5 ml. when reconstituted. **A.H.F.S. CATEGORY 8:12.16**

References: 1. Abstracted from *Antibiotic Sensitivity of Staphylococci Studied from November 1962 through August 1965,* reported by Griffith, L.J., Staphylococcus Reference Laboratory, V.A. Hospital, Batavia, N.Y. 2. Data on file, Bristol Laboratories.

BRISTOL

BRISTOL LABORATORIES/Division of Bristol-Myers Co., Syracuse, N.Y.

Whenever you suspect staph PROSTAPHLIN®

SODIUM OXACILLIN

IRON DEFICIENCY

ANEMIA

Imferon®

(iron dextran injection)

There's as much iron . . . 250 mg. . . . in a 5 cc. ampul of Imferon (iron dextran injection) as in a pint of whole blood. When iron deficient patients are intolerant of oral iron . . . or orally administered iron proves ineffective or impractical . . . or if the patient cannot be relied upon to take oral iron as prescribed, Imferon (iron dextran injection) dependably increases hemoglobin and rapidly replenishes iron reserves. Precise dosage is easily calculated.

LAKESIDE

IN BRIEF: ACTION AND USES: A single dose of Imferon (iron dextran injection) will measurably begin to raise hemoglobin and a complete course of therapy will effectively rebuild iron reserves. The drug is indicated only for specifically-diagnosed cases of iron deficiency anemia and then only when oral administration of iron is ineffective or impractical. Such iron deficiency may include: patients in the last trimester of pregnancy; patients with gastrointestinal disease or those recovering from gastrointestinal surgery, patients with chronic bleeding with continual and extensive iron losses not rapidly replenishable with oral iron; patients intolerant of blood transfusion as a source of iron; infants with hypochromic anemia; patients who cannot be relied upon to take oral iron.

COMPOSITION: Imferon (iron dextran injection) is a well-tolerated solution of iron dextran complex providing an equivalent of 50 mg. in each cc. The solution contains 0.9% sodium chloride and has a pH of 5.2-6.0. The 10 cc. vial contains 0.5% phenol as a preservative.

ADMINISTRATION AND DOSAGE: Dosage, based upon body weight and Gm. Hb/100 cc. of blood, ranges from 0.5 cc. in infants to 5.0 cc. in adults, daily, every other day, or weekly. Initial test doses are advisable. The total iron requirement for the individual patient is readily obtainable from the dosage chart in the package insert. Deep intramuscular injection in the upper outer quadrant of the buttock, using a Z-track technique, (with displacement of the skin laterally prior to injection), insures absorption and will help avoid staining of the skin. A 2-inch needle is recommended for the adult of average size.

SIDE EFFECTS: Local and systemic side effects are few. Staining of the skin may occur. Excessive dosage, beyond the calculated need, may cause hemosiderosis. Although allergic or anaphylactoid reactions are not common, occasional severe reactions have been observed, including three fatal reactions which may have been due to Imferon (iron dextran injection). Urticaria, arthralgia, lymphadenopathy, nausea, headache and fever have occasionally been reported.

PRECAUTIONS: If sensitivity to test doses is manifested, the drug should not be given. Imferon (iron dextran injection) must be administered by deep intramuscular injection only. Inject only in the upper outer quadrant of the buttock, not in the arm or other exposed area.

CONTRAINDICATIONS: Imferon (iron dextran injection) is contraindicated in patients sensitive to iron dextran complex. Since its use is intended for the treatment of iron deficiency anemia only it is contraindicated in other anemias.

CARCINOGENICITY POTENTIAL: Using relatively massive doses, Imferon (iron dextran injection) has been shown to produce sarcoma in rats, mice and rabbits and possibly in hamsters, but not in guinea pigs. The risk of carcinogenesis, if any in man, following recommended therapy with Imferon (iron dextran injection) appears to be extremely small.

SUPPLIED: 2 cc. ampuls, boxes of 10; 5 cc. ampuls, boxes of 4, 10 cc. multiple dose vials.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

Phenaphen® with Codeine

the only leading compound analgesic that calms instead of caffeinates

Each capsule contains:

Phenobarbital (¼ gr.) ..... 16.2 mg.
(Warning: may be habit forming)
Aspirin (2½ gr.) .....162.0 mg.
Phenacetin (3 gr.) .....194.0 mg.
Hyoscyamine sulfate .....0.031 mg.
Codeine phosphate.....¼ gr. (No. 2), ½ gr. (No. 3), 1 gr. (No. 4)
(Warning: may be habit forming)

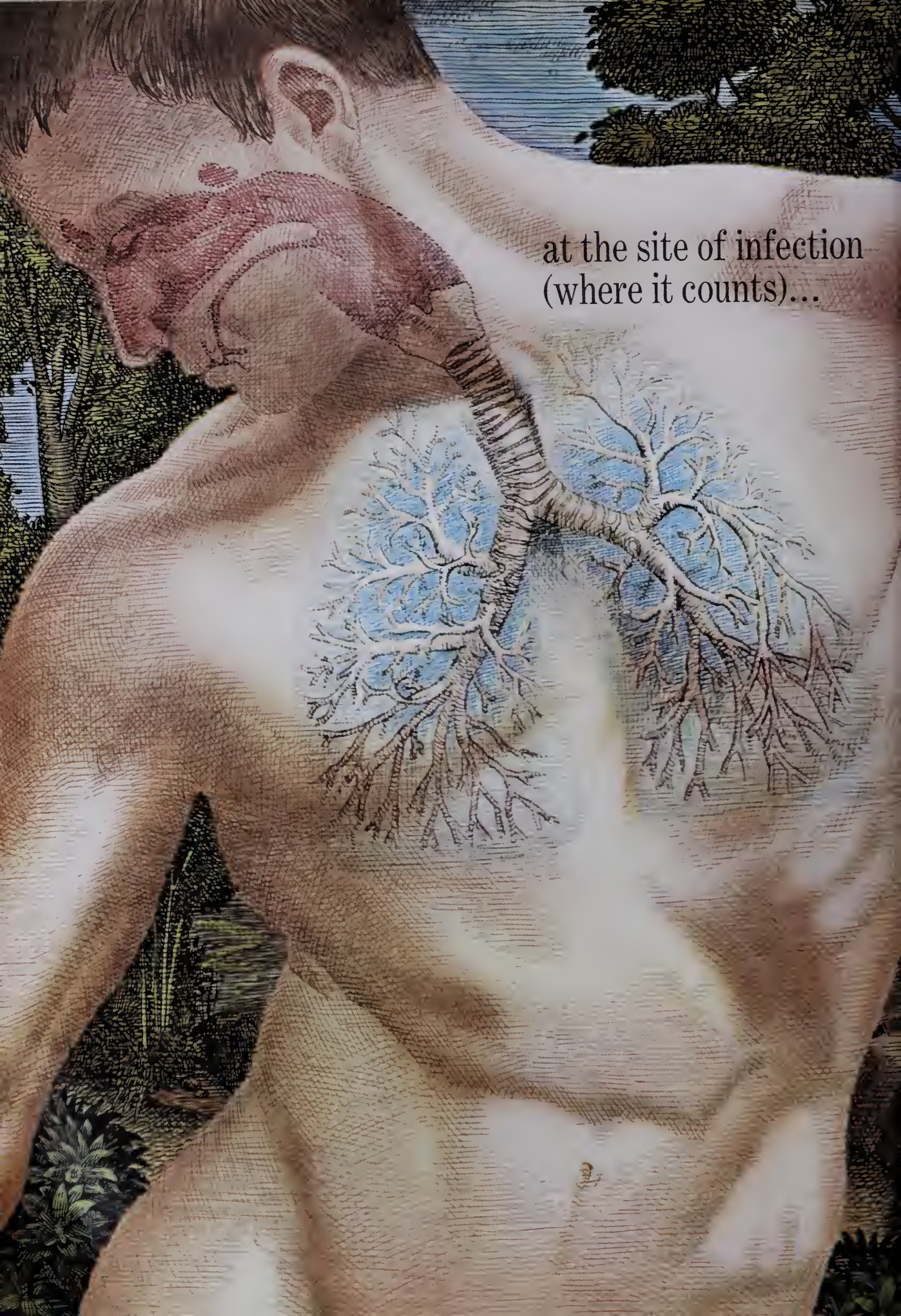
Contraindications: Hypersensitivity to any ingredient.

Precautions: As with all phenacetin-containing products, avoid excessive or prolonged use.

Side Effects: Side effects are uncommon—nausea, constipation, and drowsiness have been reported.

A-H-ROBINS

A. H. ROBINS CO., INC., Richmond, Va. 23220


at the site of infection
(where it counts)...

Ilosone® provides more antibacterial activity than any other oral erythromycin

Acid stable, better absorbed ... Ilosone produces faster, higher, more prolonged blood levels, even in the presence of food[1-3]

Because it is the most active form of oral erythromycin, Ilosone can help assure consistently greater antibacterial activity at the site of infection. Ilosone produces peak antibacterial blood levels two to four times those of other erythromycin preparations.[1,2] Not only are these levels attained earlier, but they are maintained for much longer periods. Even the presence of food does not seem to affect the activity of Ilosone.[1,3]

In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

700121

Ilosone®
Erythromycin Estolate

Lilly

(See next page for prescribing information.)

Ilosone®/ the most active oral form of erythromycin

Description: Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

Indications: Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone.

Contraindications: Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with preexisting liver disease or dysfunction.

Side-Effects: Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have appeared in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly if the drug is readministered to sensitive patients, usually within forty-eight hours. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to be definitely related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalin flocculation and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has not been reported in other patients taking prolonged courses of the medication. Patients with chronic infection have been given 1 to to 2 Gm. of the drug daily for periods of two to six months, and patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of these patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels were determined in a group of fifty-four adults and children who took 250 mg. of Ilosone daily for an average of sixteen months as rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevation of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (ten-day) courses of Ilosone in the treatment of streptococcus infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacteria flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticaria, skin eruptions, and, on rare occasions, anaphylaxis.

Administration and Dosage: Ilosone is administered orally.

Ilosone Pulvules®
Ilosone Chewable Tablets
Ilosone Drops
Ilosone, 125, for Oral Suspension

For infants and for children under twenty-five pounds of body weight, the usual dosage is 5 mg. per pound every six hours; for children twenty-five to fifty pounds, 125 mg. every six hours. (Tablets Ilosone Chewable should be chewed or crushed and swallowed with water.)

For adults and for children over fifty pounds, the usual dosage of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage is 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days are recommended. In the treatment of gonorrhea, patients with suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

How Supplied: Pulvules Ilosone, Capsules, N.F., 125 and 250 mg. (equivalent to base), in bottles of 24 and 100.

Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to base), in bottles of 50.

Ilosone Drops, 5 mg. (equivalent to base) per drop, in 10-cc. size packages, with dropper calibrated at 25 and 50 mg.

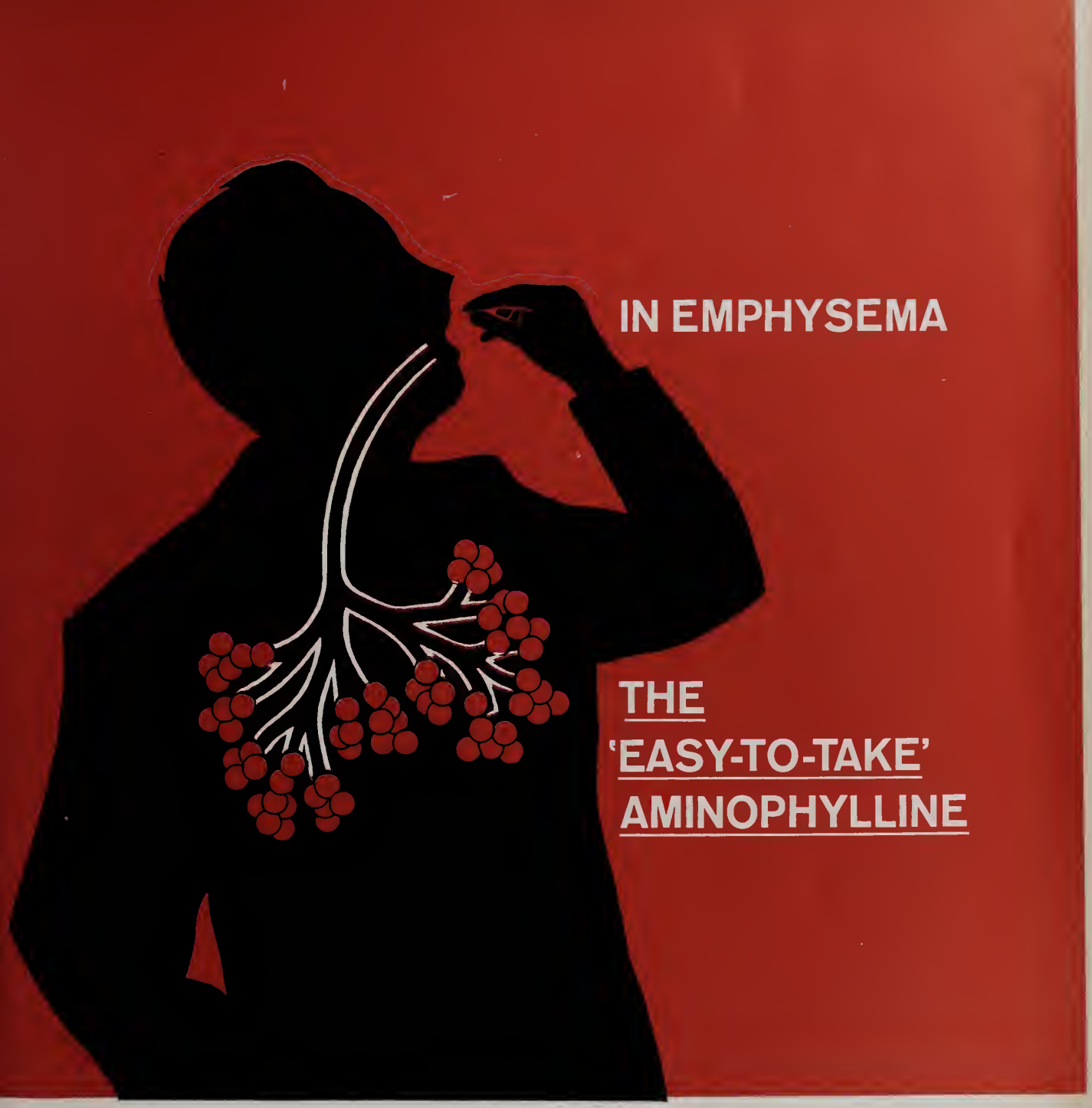
Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size packages.

References: 1. Griffith, R. S., and Black, H. R.: Am. J. M. Sc., *247*:69, 196
2. Griffith, R. S., and Black, H. R.: Antibiotics & Chemother., *12*:398, 196
3. Hirsch, H. A., Pryles, C. V., and Finland, M.: Am. J. M. Sc., *239*:198, 1960.

Additional information available to physicians upon request.
Eli Lilly and Company, Indianapolis, Indiana 46206.

Lilly

7001



Aminophylline dura-tabs®

prolonged-medication tablets 4½ gr. (0.3 Gm.)

Precautions: Use with caution in patients with poor renal function as a decreased rate of excretion may lead to accumulation and untoward reactions. Gastric irritation may occasionally be observed in certain patients sensitive to oral aminophylline.

Dosage: Adults, 1 to 2 Aminophylline Dura-Tabs each 8 or 12 hours, with food.

RARELY UPSET THE STOMACH

Oral aminophylline needn't disturb the stomach—nor a good night's sleep. Patients breathe easier all day, sleep better all night, as each Aminophylline Dura-Tab dose provides effective therapeutic activity for up to 12 hours. And unlike conventional tablets, AMINOPHYLLINE DURA-TABS seldom cause gastric distress. The special Dura-Tab process allows the gradual absorption of the medication from the intestinal tract with only a small fraction of the dose released in the stomach.

WYNN Pharmaceuticals, Inc., Phila., Pa. 19132 • Manufacturers of QUINAGLUTE® DURA-TABS®

Whenever the diet is faulty, the appetite poor, or the loss of food is excessive

through vomiting or diarrhea—

Valentine's
MEAT EXTRACT

stimulates the appetite,
increases the flow of digestive juices,
provides: supplementary amounts of vitamins, minerals and soluble proteins,
extra-dietary vitamin B_{12},
protective quantities of potassium, in a palatable and readily assimilated form.

Supplied in bottles of 2 or 6 fluidounces.

DOSAGE *is 1 teaspoonful two or three times daily; two or three times this amount for potassium therapy. Dilute with two or more equal volumes of water.*

VALENTINE Company, Inc.
RICHMOND 21, VIRGINIA

Tandearil®
oxyphenbutazone

Therapeutic Effects: Tandearil is a nonhormonal compound which may rapidly resolve inflammation and help restore normal joint function. Its action does not affect pituitary-adrenal function or impair immune responses. Its value in osteoarthritis is especially noteworthy because this disorder responds inconsistently to steroids and is often resistant to salicylates. Further, indomethacin is limited only to osteoarthritis of the hip, whereas oxyphenbutazone is effective in all forms of the disease.

Contraindications: Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently.

Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

Precautions: Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage. Make regular blood counts. Discontinue the drug and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

Adverse Reactions: The most common are nausea, edema and drug rash. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

Dosage in Osteoarthritis: The initial daily dosage in adults is 300-600 mg. in divided daily doses. When improvement occurs, dosage should be decreased to the minimum effective level; this should not exceed 400 mg. daily, and is often achieved with only 100-200 mg. daily.

For complete details, please refer to full prescribing information. 6562-VI(B)R

Availability: Tablets of 100 mg.

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York

Geigy

Tandearil®
oxyphenbutazone

helps osteoarthritic joints move again

3 out of 4 osteoarthritics completely or markedly improved

Sperling, I.L.: 3 Years' Experience with Oxyphenbutazone in the Treatment of Rheumatic Disorders, Applied Therapeutics 6:117, 1964

76.9% of 407 patients

Watts, T.W., Jr.: Treatment of Rheumatoid Disorders with Oxyphenbutazone, Clin. Med. 73:65, 1966.

84.6% of 39 patients

Please see adjoining page for brief prescribing summary

TA-4919 PC

TABLETS

Equagesic®

(meprobamate and ethoheptazine citrate with aspirin)

Wyeth®

Precautions: Keep out of reach of children. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use of meprobamate may result in dependence or habituation in susceptible persons—as ex-addicts, alcoholics, severe psychoneurotics. Withdraw gradually after prolonged high dosage to avoid possibly severe withdrawal reactions including epileptiform seizures. Warn patients of possible reduced alcohol tolerance. If drowsiness, ataxia or visual disturbances occur, reduce dose. If symptoms persist, caution patients against operating machinery or driving. Give cautiously to patients with suicidal tendencies. Treat attempted suicide with immediate gastric lavage and appropriate supportive therapy

Side Effects: Ethoheptazine and aspirin may occasionally cause nausea, vomiting, epigastric distress, and rarely dizziness and CNS depression. Overdosage may result in salicylate intoxication. Meprobamate rarely causes allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. Meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioedema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. A few cases of leukopenia, usually transient, have been reported following prolonged dosage. Rarely, cases of aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia have been reported; almost always, in the presence of known toxic agents.

Contraindications: History of sensitivity or severe intolerance to aspirin or meprobamate.

Composition: 150 mg. meprobamate, 75 mg. ethoheptazine citrate and 250 mg. aspirin per tablet.

Wyeth Laboratories Philadelphia, Pa.

Weighing on his mind, too

When pain evokes anxiety and tension, thereby heightening patient discomfort, a simple analgesic may only touch on part of the problem.

This single-prescription, nonnarcotic product, however, usually provides effective analgesia *and* helps put the patient's mind at ease.

"George wants to know if it's okay to take his cold medicine now, Doctor, instead of seven o'clock?"

The long-continued action of Novahistine LP should help you both get a good night's sleep. Two tablets in the morning and two in the evening will usually provide round-the-clock relief by helping clear congested air passages for freer breathing. Novahistine LP also helps restore normal mucus secretion and ciliary activity—normal physiologic defenses against infection of the respiratory tract Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution ambulatory patients that drowsiness may result. Each Novahistine LP tablet contains: phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

NOVAHISTINE® LP

DOW **PITMAN-MOORE** Division of The Dow Chemical Company, Indianapolis

Look how many ways

Thorazine®

brand of

chlorpromazine

can help

	Tranquilizer	Potentiator	Antiemetic
Agitation	●		
Alcoholism	●		●
Anxiety	●		
Cancer patients	●	●	●
Severe neurodermatitis	●		
Drug addiction withdrawal symptoms	●		●
Emotional disturbances (moderate to severe)	●		
Nausea & vomiting	●		●
Neurological disorders	●		
Obstetrics	●	●	●
Pain	●	●	●
Pediatrics	●	●	●
Porphyria	●	●	
Psychiatric disorders	●		
Hiccups—refractory	●		
Senile agitation	●		
Surgery	●	●	●
Tetanus	●	●	

'Thorazine' is useful as a specific adjuvant in the above named conditions.

The following is a brief precautionary statement. Before prescribing, the physician should be familiar with the complete prescribing information In SK&F literature or *PDR*. *Contraindications:* Comatose states or the presence of large amounts of C.N.S. depressants. *Precautions:* Potentiation of C.N.S. depressants may occur (reduce dosage of C.N.S. depressants when used concomitantly). Antiemetic effect may mask other conditions. Possibility of drowsiness should be borne in mind for patients who drive cars, etc. In pregnancy, use only when necessary to the welfare of the patient. *Side Effects:* Occasionally transitory drowsiness; dry mouth; nasal congestion; constipation; amenorrhea; mild fever; hypotensive effects, sometimes severe with I.M. administration; epinephrine effects may be reversed; dermatological reactions; parkinsonism-like symptoms on high dosage (in rare instances, may persist); weight gain; miosis; lactation and moderate breast engorgement (in females on high dosages); and less frequently cholestatic jaundice. Side effects occurring rarely include: mydriasis; agranulocytosis; skin pigmentation, lenticular and corneal deposits (after prolonged substantial dosages).

For a comprehensive presentation of 'Thorazine' prescribing information and side effects reported with phenothiazine derivatives, please refer to SK&F literature or *PDR*.

Smith Kline & French Laboratories

in alcoholism:

B and C vitamins aid therapy. Therapeutic amounts of B and C vitamins can be important in the management of the alcoholic patient. In alcoholism, as in many chronic illnesses, STRESSCAPS vitamins aid therapy.

Stresscaps®

Stress Formula Vitamins Lederle

FOR PROFESSIONAL RECOMMENDATION ONLY

Each capsule contains:

Vitamin B_1 (as Thiamine Mononitrate)	10 mg
Vitamin B_2 (Riboflavin)	10 mg
Vitamin B_6 (Pyridoxine HCl)	2 mg
Vitamin B_{12} Crystalline	4 mcgm
Vitamin C (Ascorbic Acid)	300 mg
Niacinamide	100 mg
Calcium Pantothenate	20 mg

Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 and 100; bottles of 500.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

Lederle

691-6-3942

ECONOMICAL!

cream and ointment

Additional information available to physicians upon request.
Eli Lilly and Company, Indianapolis, Indiana 46206.
600811

The Virginia
MEDICAL MONTHLY

March, 1967

Vol. 94, No. 3
Whole No. 1378

Guest Editorial . . . .

Medicare and Welfare Departments

RECENTLY a letter from a Virginia County Department of Public Welfare arrived in my office mail. I feel it deserves comment. Attached was my bill for services to a patient cared for by the county, and it included charges for care both in a nursing home and in a hospital. Prior to July, 1966, the bills were approved and payment sent promptly. But let me quote from this letter:

"We are in receipt of your statement in the amount of $ for services to Miss who receives Old Age Assistance from this department.

"Even though Miss is under the care of this department we are unable to make payments for physicians services, as we pay Medicare and Co-Insurance on each of our clients which covers this expense. We realize that some of the physicians are not participating in the plan to submit their statements directly to the insurance carriers, but at the present we know of no other way for the bill to be paid as Miss has no funds which she can use for physician's services."

This is not an isolated case. The same type of letter is being sent to physicians from other County Welfare Departments, as it is the present policy of the Virginia Department of Welfare and Institutions. A directive from the Department (Supplement 10 to Bulletin #409) outlines the procedures to be followed, insisting that Form SSA-149A be forwarded the Part B Carrier, in duplicate. It gives the physician the choice of not accepting an assignment only when the patient (who is on welfare) can pay his own bill! Otherwise, "the only sure way a physician may be paid for his services is by the assignment method". In short, the Virginia Department of Welfare is *issuing instructions* to accept assignment under Medicare!

Indeed, the identical situation is present in other states, specifically, to my knowledge, Kentucky, Indiana, Ohio and Minnesota. This is in

spite of frequent statements and directives from HEW reaffirming that physicians have the choice of accepting or refusing assignments, for services to *all* Medicare patients. "All" includes those who are cared for by County Welfare Departments.

At the 1965 fall meeting, The Medical Society of Virginia adopted a resolution which urged doctors to continue billing patients directly in the traditional ethical manner, even under Medicare. In June, 1966, the Richmond Academy of Medicine approved a resolution urging physicians to deal directly with the Medicare patient on all financial matters. Previously, the Roanoke Academy had strongly opposed taking assignments. Both the American Medical Association and the American Academy of General Practice have taken stands opposing the assignment method. In October, 1966, the Congress of Delegates of the AAGP condemned any attempt to force physicians to accept assignment for welfare patients.

One might ask, "Why the concern over acceptance of assignment under Medicare?" Over the years we have accepted Blue Shield payments, and those of other insurance companies. But it is a different story when a physician accepts an assignment under Medicare. Not only does he accept the assignment of the patient's rights to payment, but by so doing he agrees to accept whatever the federal government decides to offer—whatever is *at that time* considered the "usual and customary fee"—as full payment of 80 percent of his charges, and further agrees that he will not collect any reduction in these charges from the patient.

The tragedy here lies not in the giant's step toward fee regulation which is being engineered by welfare agencies on all levels, but in the blatant rape of the basic principles on which American medicine has grown great. To submit to the illegal directives of Medicare bureaucrats and their underlings is to admit into the physician-patient relationship an impersonal, faceless third party, controlling now the purse-strings but working toward ultimate jurisdiction over the type of medical care administered. The camel's nose is in the tent, and with every physician who accepts governmental interference in his practice, more of the camel follows.

The Medicare program, already costing billions more than published anticipated estimates, is a program that can scarcely be afforded by this country—both financially and in the sacrifice of our unparalleled system of medicine. Patient benefits will certainly not be reduced, but the "usual and customary fee" is most vulnerable to governmental manipulation. Any physician who accepts assignments will be locked into the

mechanism, losing the right to determine his fee and other integral aspects of the doctor's relationship with his patient. This is history, repeated again and again wherever socialized medicine has become national policy.

In his excellent President's Message, Dr. Herb Huffington of the Minnesota Academy of General Practice discusses this problem. He states that the Director of the Minnesota State Department of Public Welfare is attempting to make arrangements for physicians to direct their bills to their patients and have the welfare board pay the bill (as in the past) and be repaid by Medicare and the co-insurance.

This can be done in Virginia, if the many physicians throughout the State feel strongly enough about their principles to continue to bill the Welfare Departments as they have in the past, and to refuse to accept assignments. It will take many letters of protest against the present plan, directed to both the county and to the state welfare departments. It will take action by The Medical Society of Virginia, strongly bringing pressure on State agencies to alter their present procedures into a program in which patient benefits and justly earned physicians' fees may proceed, unhampered by bureaucratic bungling.

R. G. McAllister, M.D.

1016 West Franklin Street
Richmond, Virginia

Detection of Carcinoma of the Cervix Uteri by Cytologic Screening

RICHARD E. PALMER, M.D.
Alexandria, Virginia

If every physician's office is a cancer detection center, we can virtually eradicate a dreadful killing disease.

MY THEME for this presentation is that cancer detection begins in the physician's office—and that every physician's office is a cancer detection center.

Slightly more than 20 years ago, Papanicolaou and Trout pointed out the value of the vaginal smear as a useful tool in the diagnosis of uterine cancer. From that seemingly inauspicious start the diagnostic value of vaginal and cervical cytology has been amply substantiated in countless studies in this country and abroad. Despite the proved effectiveness of cytology as an excellent screening method for the early diagnosis of cancer of the cervix uteri, it is appalling to learn that some physicians in practice do not own a vaginal speculum—a sine qua non for obtaining a satisfactory specimen.

At the risk of being too basic, I am going to spend a few minutes on the subject of how to obtain a good smear of the cervix uteri. With the patient prepared for a vaginal examination in the lithotomy position, the cervix is exposed with a vaginal speculum. It is important to instruct the patient that she should not douce for 24 hours prior to the examination. The speculum should be inserted without the aid of a lubricant. The exposed cervix should be gently scraped in a rotary manner with a suitable spatula and the material from the cervix should be promptly and evenly spread over a clean glass slide and immediately, before the exfoliated material has dried, immersed in the fixing solution. The slides may be kept in the fixing solution for an indefinite period of time, but for at least one hour. After fixation the slides may be placed in a slide-mailing container and forwarded to the cytology laboratory. Since most cancers of the cervix uteri originate at the junction of the exo- and endocervical mucosas or in the lower one-fourth of the endocervical canal it is important that at least one slide be prepared from this area. Commercially available spatulas, especially designed to rotate in the endocervical canal may be used or excellent material can be obtained with a cotton-tipped wooden applicator. The second slide can be prepared from the exocervix or from the material in the posterior fornix which represents the vaginal pool.

A mixture of equal parts of 95 percent ethanol and ethyl ether is an excellent fixative but because of the risk of fire and explosion from ether, most laboratories have discarded this mixture. Ninety-five percent isopropyl alcohol is a safe, inexpensive and readily available fixative. Many physicians today use a commercially available spray (Cytospray) as a fixative. It is important that the specimen be obtained prior to manual examination so as to avoid picking up starch granules and lubricant along with the specimen. The specimen should be obtained without trauma so that free blood will be excluded. The use of the Schiller test is advocated by many gynecologists, especially

Presented at Annual Meeting of Kentucky Academy of General Practice, Louisville, May 11, 1966.

prior to biopsy. The iodine solution fails to stain areas of carcinoma because the tumor cells are deficient in glycogen. The test is not specific but it is frequently helpful.

The slides should be forwarded to the local Pathologist who is specially trained in biopsy and cytologic diagnosis. The optimal relationship is one in which one practicing physician, the pathologist, acting in a consulting capacity, works with another practicing physician in assuring the highest possible quality of health care for the people of a given community. This implies easy verbal communication through understanding of terminology, mutual confidence and a sincere desire of each of them to help the other to best perform his job.

The first cervical smear was received in my laboratory in 1952 and from that time to the present over 71,000 specimens have been evaluated.

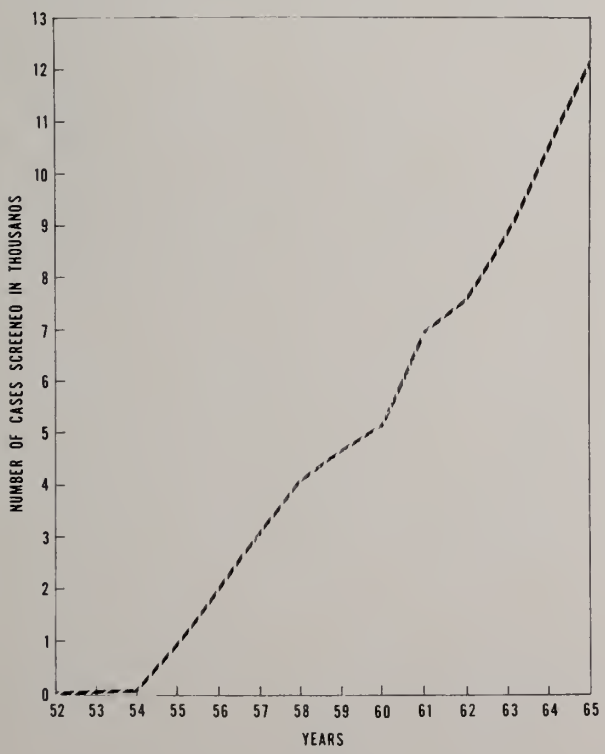


Fig. 1

Figure 1 graphically depicts the growth in the number of specimens from 1952 through 1965. From 1952 to July of 1958 we studied 8,667 cervical smears and found 247 suspicious smears or an incidence of 28.5 suspicious cases per 1,000 women. Seventy percent, or 173 of the 247 patients having suspicious cells, were biopsied and in 48 instances carcinoma was found. In the latter group there were 16 carcinomas in situ and 32 invasive carcinomas. The incidence of carcinoma of the cervix for this period was 5.5/1,000 women.

During the period July 1958 through 1961 17,118 cases were accessioned and 218, or 12.7 per 1,000 women, had suspicious smears. One-hundred and forty-four, or 66 percent of the patients having suspicious smears, were biopsied and 74, or 51.4 percent, had carcinoma of the cervix. In this group of 74 patients there were 51 carcinomas in situ and 23 invasive carcinomas. The incidence of carcinoma of the cervix uteri for this period was 4.3 per thousand women. The third time we analyzed our results included the period from 1962

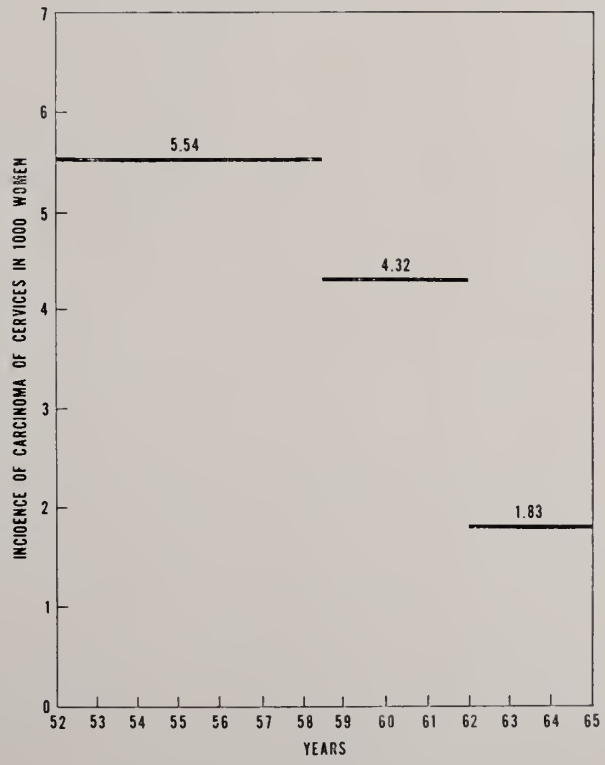


Fig. 2

through 1965 and 40,950 patients were studied; 194, or 4.8 suspicious smears per 1,000 women, were found. There were 136 biopsies yielding 75 patients with carcinoma of the cervix which included 66 carcinomas

in situ and 9 invasive carcinomas. The incidence of carcinoma for this period was 1.8 per thousand women screened.

Figure 2 depicts the incidence of carcinoma of the cervix uteri per 1,000 women studied during the three periods of time described.

It is interesting to note how the incidence of suspicious smears has declined (Figure 3) over the years.[1,2,3]

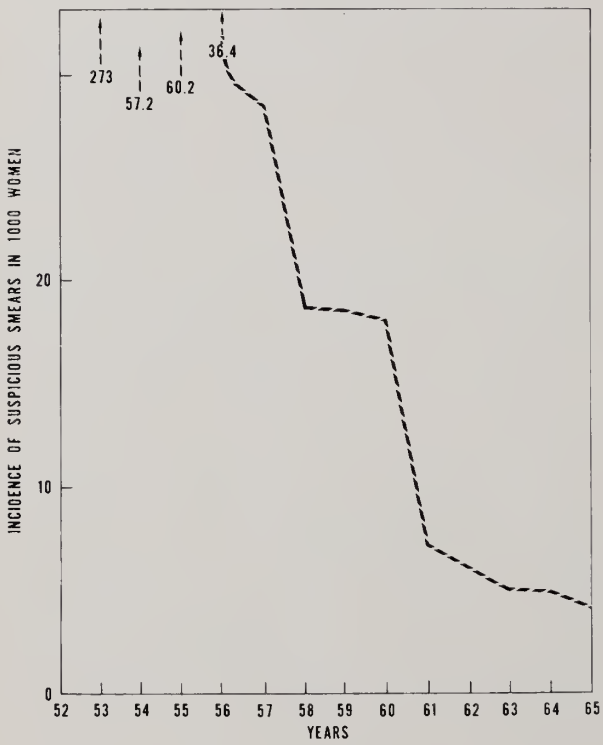


Fig. 3

Initially (1952-July 1958) we found approximately 28.5 suspicious smears per 1,000 women; from July 1958 through 1961 the incidence was approximately 12.8 suspicious smears per 1,000; and from 1962 through 1965 there were 4.8 suspicious smears per 1,000 women. There may be several explanations for this precipitous decline in the number of suspicious smears.

First, our inexperience during the early years may have prompted us to interpret certain non-neoplastic atypias as neoplastic changes.

Second, with experience culled from correlating smears with the biopsy, our ability to more exactly recognize significant cytologic changes has been enhanced.

Third, during the same period, there was probably a tendency of the examining physician to ignore the grossly healthy appearing cervix and reserve cytologic study for the women with an overt lesion.

Fourth, a higher percentage of our earlier cases were clinic patients of low socio-economic and poor hygienic status; and,

Last, during the earlier years of this study we were dealing with a previously unscreened population.

A recent study of an unscreened population in Tijuana, Mexico, showed 62 abnormal smears per 1000 and the incidence of carcinoma was 2.4 percent—about equally divided between carcinoma in situ and invasive carcinoma.[4]

In British Columbia in 1955 the incidence of clinically invasive carcinoma was 28.4 per 100,000 as compared to 5.5 per 100,000 in 1962.[2] This decline is attributed to detection and elimination of carcinoma in situ and invasive carcinoma during the initial detection program resulting in a significant reduction in the incidence of clinically invasive carcinoma within the population group. The incidence of cervical cancer in Shelby County, Tennessee, was reduced 51 percent between 1949 through 1961 through cytologic screening of three-fourths of white women over age twenty. By comparison, in the minimally screened mid-South there were 13.6 percent fewer diagnoses of cervical cancer over the same period. The death rate from cervical cancer in Shelby County decreased 59 percent from 1953 to 1961 reflecting the value of diagnosis and treatment of pre-invasive carcinoma and the early more curable stages of invasive carcinoma.

It is interesting that of 25 cases of invasive cervical cancer diagnosed in Shelby in 1961, twenty had never had a previous smear.[3]

Figure 4 shows the incidence of carcinoma in situ and invasive cervical carcinoma of the cervix year by year. It is of impor-

tance to note the decline of invasive cancer and the ascendancy of carcinoma in situ—a reward to the physician, the patient and the community for a conscientious program of cancer detection.

This is more strikingly demonstrated in Figure 5 where the percentage of in situ carcinoma and invasive is plotted.

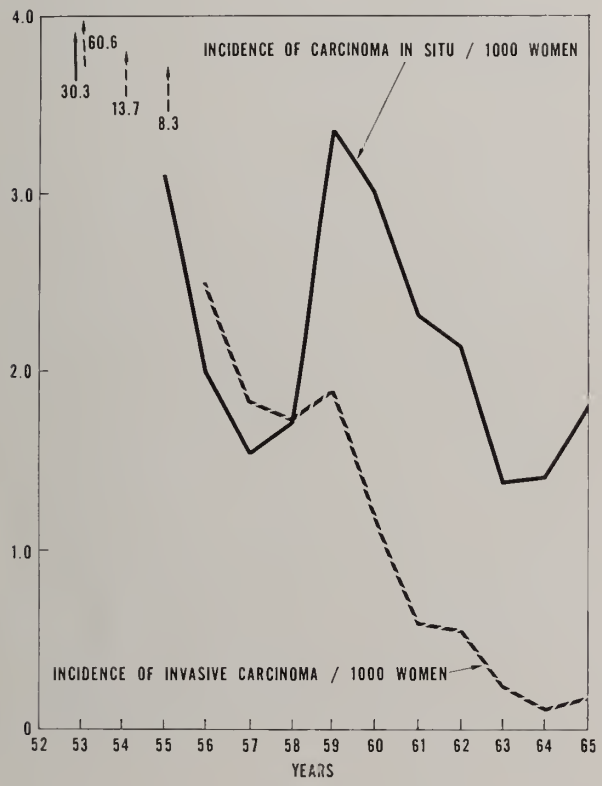


Fig. 4

Numerous studies have clearly implicated certain epidemiologic and etiologic factors as important predisposing features in the development of carcinoma of the cervix uteri. The major factors listed by Robbins[5] include:

1. Age
2. Early marriage
3. Uncircumcised marital partner
4. Early sex experience
5. Poor personal hygiene
6. Multiparity
7. Poor repair of cervical laceration

Age

Many physicians have set age limits for women below which they do not do vaginal cytology. Ages 30 to 40 frequently embrace the arbitrary range set by many physicians but a recent study showed that among a group of 1,500 women with positive smears, there were 77 teen-age girls; 56 of the 77 girls had a biopsy and 10 of this group had carcinoma in situ of the cervix.[6] In a group of 18,160 women be-

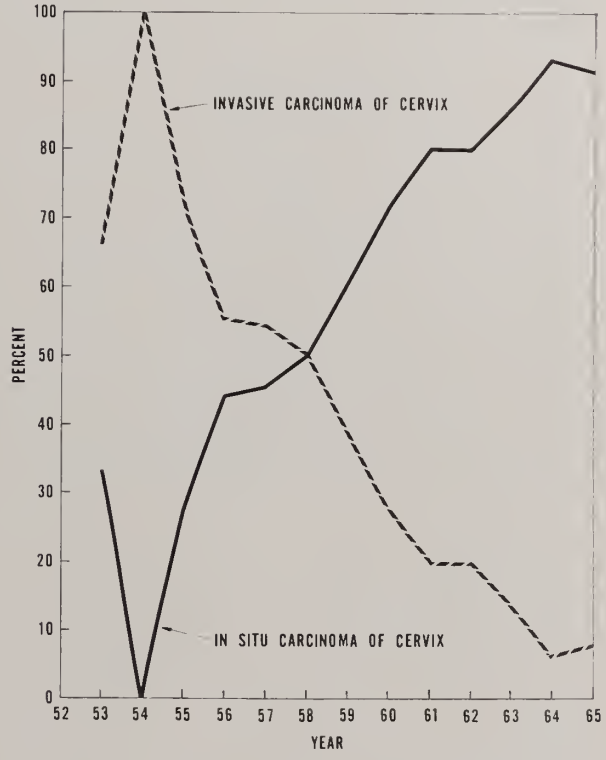


Fig. 5

tween ages 20 and 30, four-hundred and twenty-four patients had positive cytology and of the approximate 66 percent that had a biopsy there were 103 carcinomas in situ and 19 invasive carcinomas of the cervix.[7]

The youngest in situ carcinoma in my series was encountered in a 19 year old girl and the youngest invasive carcinoma was found in a 25 year old. During the period from 1962 through 1965, 39,267 smears were studied and 412 women has suspicious smears. One-hundred and four cases had negative smears when new specimens were submitted for study and 31 patients were lost to follow-up. The remaining 278 patients had a biopsy and 125 carcinomas in situ and 35 invasive cancers were found.

Nearly 58 percent of suspicious smears detected carcinoma. The average age for carcinoma in situ in this group was 37.2 and the average age of invasive carcinoma of the cervix was 40.1 years. Twenty-one, or 16.8 percent of the carcinomas in situ and three, or 8.6 percent of the invasive carcinomas of the cervix occurred in women under age 30.

Parity, Early Sexual Experience and Early Marriage

Four of the 125 carcinomas in situ were found in pregnant women. Whereas I have not attempted to correlate my data with early sexual experience, early marriage, early pregnancy and multiparity, Christopherson and Parker have shown that all of these factors play a statistically significant role in the development of cancer of the cervix uteri.[8] They calculated that 64 percent of all invasive cervical carcinomas occur in women who started sexual activity in their teens.

The effect of pregnancy on the growth of carcinoma in situ has not been completely ascertained but the consensus seems to indicate that pregnancy per se does not significantly alter the histologic appearance of the pathogenesis of the process.[9] Wilbank and Rickart[10] studied the postpartum cervix and its relation to cervical neoplasia and concluded that there is credence to the theory that trauma and related healing may play a role in the genesis of cervical carcinoma.

Personal Hygiene and Socio-economic Factors

There is nearly a threefold increase in the incidence rate of cervical carcinoma in the lowest economic group when compared with the highest economic group.[8] Many factors probably contribute to this observation and certainly personal hygiene is one. The 1950 census reported the population of Alexandria, Virginia, to be 61,787 with 22,426 women over age 20. The average family income was $4,444. By 1960 the population was 91,023 with 29,783 women over age 20 and the average family income was $7,207. The national average family income was $6,812. The overwhelming majority of the cervical smears in my group of cases are from relatively high income private patients and this in part accounts for the relatively low incidence rate of cervical cancer in Alexandria. The lower rates obtained in this study lends support to the fact that the socio-economic status of women in a population is inversely proportional to the rate of cervical cancer.

As more women were screened it was seen that the incidence of new cases of cervical carcinoma declined while the percentage of carcinoma in situ increased. A high proportion of women over age 20 in Alexandria have been initially screened and many of these women have been screened two or more times. Theoretically at the present rate of screening, all women over 20 in Alexandria are screened every two and a half or three years. If we accept the premise that it takes about 10 years for an in situ cervical cancer to become an invasive cervical cancer, then it becomes apparent that with a cytologic screening program that detects intra-epithelial carcinoma, and if adequate treatment for carcinoma in situ is carried out—then invasive cervical cancer will be eradicated.

It has been shown that the higher rates of cervical cancer in the Negro, when corrected for the socio-economic factor, are not significantly different from the rate of cervical cancer in the Caucasian.[7,11]

I calculated the time interval between the date of report of a positive smear and the date of biopsy diagnosis of cervical cancer in 113 patients and found the time lapse was 30 days. In order to arrive at this figure it was necessary to eliminate four "outlander" cases with time lapses varying from two years to over four years. In most instances excessive delay is the result of severe cancerphobia on the part of the patient. Various personal factors such as vacations, children in school, and economics undoubtedly play a role.

It is our policy to notify the attending physician by telephone of all suspicious smears and to follow up all suspicious smears if not biopsied in two months by sending a form letter to the attending physician inquiring as to the disposition of the case. Approximately 10 percent of our positive smears have been "lost to follow-up" and based on the fact that our study shows 58 percent of positive smears prove to be cancer, then we can assume that 18 patients with incipient or overt cancer of the cervix have been needlessly sacrificed to inaction or indifference. Once a suspicious smear is reported it is the responsibility of the attending physician to define a course of action. In certain instances, if only a few questionably suspicious cells are seen, it may be desirable to re-examine the patient and repeat the smear. In other instances it may be prudent to obtain a four or six point punch biopsy of the cervix. If an overt lesion is found this may be especially helpful from the standpoint of conservation of time and psychic trauma to the patient. If the punch biopsy shows an in situ carcinoma, the next step is a wide conization of the cervix with a knife. The punch biopsy is not sufficient for the diagnosis of pre-invasive cancer because the in situ lesion found may be a nibble at the edge of an invasive cancer. Secondly, a certain number of carcinomas in situ will be missed with a punch biopsy because of inadequate sampling.

The use of electrocautery is to be condemned because the extensive tissue damage renders the specimen unsuitable for definitive microscopic study. If the cervix appears healthy it is often helpful to do a Schiller's test and extend the radius of the conization beyond any area of the cervix that does not stain with the iodine solution. The conized specimen must be systematically cut by the pathologist so that the entire specimen is available for microscopic study. Once the diagnosis of pre-invasive cancer is firmly established, hysterectomy seems to be the treatment of choice. In a young person who desires to have a family or additional children, it is reasonable to conize the cervix and institute a careful follow-up course with smears every six months and after her family is complete, then do a hysterectomy.

In 1963 some 9,000 women died of carcinoma of the cervix. The overall five-year survival rate for invasive carcinoma is 58 percent—79 percent for localized invasive cancer and 44 percent for those with regional involvement.[12] The mean duration from onset of symptoms to death in untreated cervical cancer is 20.9 months. In one report of 127 patients with untreated carcinoma in situ, 82 percent were followed at least five years and 30 percent more than 11 years.[13] At the end of one year, 4 percent developed invasive carcinoma; 22 percent after five years and 33 percent after nine years. The five-year survival rate of adequately treated carcinoma in situ is 100 percent.

The significance of the statistics is patently clear. If every physician's office is a cancer detection center, we can virtually eradicate a dreadful killing disease.

Bibliography

1. Ruch, R. M., Blake, C., Abou, A., Lado, M., and Ruch, W. A.: The Changing Incidence of Cervical Carcinoma. Am. J. Obstet. Gynec. 89:727-731. 1964.
2. Bryans, F. E., Boyes, D. A., and Fidler, H. K.: The Influence of a Cytological Screening Program Upon the Incidence of Invasive Squamous Cell Carcinoma of the Cervix in British Columbia. Am. J. Obstet. Gynec. 88:898-903. 1964.
3. Kaiser, R. F., Erickson, C. C., Everett, B. E. Jr., Gillian, A. G., Graves, L. M., Walton, M., and Sprunt, D. H.: Initial Effect of Community-Wide Cytologic Screening on Clinical Stage of Cervical Cancer Detected in an Entire Community. Results of Memphis-Shelby County, Tennessee; Study. J. Nat. Cancer Inst. 25: 863-881. 1960.
4. Schonberg, L. A., Carlin, F., Irwin, H. R., Luibel, F. J., and Maas, H. E.: Cancer of the Cervix in a Mexican Population. J.A.M.A. 191:84-86. 1965.
5. Robbins, L. C., and Walker, E.: Carcinoma In Situ of the Cervix. Problem of Control. Am. J. Nurs. 64:80-82. April 1964.

6. Ferguson, J. H.: Positive Cancer Smears in Teenage Girls. J.A.M.A. 178:365-368. 1961.
7. Cavanagh, D., McLeod, A. G. W., and Ferguson, J. H.: Carcinoma of the Cervix Among Women in Their Twenties. J.A.M.A. 195: 834-836. 1966.
8. Christopherson, W. M., and Parker, J. E.: Relation of Cervical Cancer to Early Marriage and Childbearing. New Eng. J. Med. 273: 235-239. 1965.
9. Moore, J. G., Wells, R. G., and Morton, D. G.: Management of Superficial Cervical Cancer in Pregnancy. Am. J. Obstet. Gynec. 27: 307-318. 1966.
10. Wilbank, G. O., and Rickart, R. M.: Postpartum Cervix and Its Relation to Cervical Neoplasia. Cancer. 19:273-280. 1966.
11. Christopherson, W. M., and Parker, J. E.: Study of Relative Frequency of Carcinoma of Cervix in Negro. Cancer. 13:711-713. 1960.
12. Gusberg, S. B.: Cancer In Situ of the Cervix. Treatment as Preventive Medicine. Am. J. Nurs. 64:76-79. April 1964.
13. Petersen, O.: Spontaneous Course of Cervical Precancerous Conditions. Am. J. Obstet. Gynec. 72:1063-1071. 1956.

P.O. Box 1229
Alexandria, Virginia 22313

The Electric Automobile

The electric automobile, if developed, will be good for our health in a number of ways, says an editorial in the Journal of the American Medical Association. (December 12) "The medical profession should take a more than casual interest in this development, for the health implications are real and important."

Getting rid of smog is one of the chief advantages of the electric car. "On any day of heavy smog, preexistent lung disease, and perhaps some kinds of heart disease, also, may be worsened. The long-term effects of breathing smog seem even more ominous, as evidence mounts that constituents of smog may be carcinogenic (cancer causing) to man."

"The atmosphere is huge, but not indefinite. Some authorities believe that serious and perhaps permanent catastrophic contamination of the atmospheric envelope of our planet is occurring and will continue at an accelerating rate, unless we reduce air pollution. This reduction could happen if we convert from internal combustion to electrical motive power."

Another medical gain would be the virtual disappearance of carbon monoxide poisoning. "Still another, though unrelated, blessing would be a decrease in street noise. Electric motors start quietly, idle almost silently, and run quietly. The traumatic effect of chronic noise has been inadequately studied in man. Consequently, we cannot be sure that reducing street noise in our cities would have a favorable effect on health. But think how esthetically delightful such relative quiet would be."

Safety is still another argument for the electric car. "If we are in for a major retooling to manufacture electric automobiles, this retooling should provide Detroit their long-sought opportunity to redesign for safety also."

"One writer predicts that, while the electric automobile will come back, the internal combusion engine will rule the highways for another 30 years. Let us hope that this time lapse can be shortened drastically."

Psychiatric Symptoms That Signal Organic Disease

R. TERRELL WINGFIELD, M.D.
Lynchburg, Virginia

Many organic diseases are first expressed by what seem to be clear-cut emotional illnesses. Patients with this type disorder react inappropriately to their organic symptoms.

WHEN A PATIENT IS FOUND to be somewhat disoriented and confused, to have a loss of recent memory and ability to concentrate, to be evasive in answering straight-forward questions and to be covering up obvious difficulties in thinking, a psychiatrist usually make a preliminary diagnosis of chronic brain syndrome. When such symptoms are subtle or vague, a more detailed examination is indicated, but the presumptive diagnosis generally remains the same. The point is that psychiatric and psychological findings are definitive and highly suggestive in making a diagnosis of chronic brain syndrome.

When a patient is found to have an acute thinking disorder with hallucinations and delusions, when he is able to get "outside of himself" and talk about his bizarre thinking, when he is intermittently irrational or stuporous, when he responds unpredictably to psychotropic drugs and when he "appears toxic", a possibility of acute brain syndrome must be included in every differential diagnosis. Experience, judgment and awareness of such a possibility are of great value in evaluating these acute and usually emergency illnesses, since transient organic brain disorders can easily be confused with other psychotic states.

I am of the opinion that there is a prevalent tendency to conclude that a patient has a functional-emotional disorder when his behavioral illness is not clearly identified as a chronic or an acute brain syndrome. In too many cases, a comprehensive medical and psychiatric examination shows such a conclusion to be unwarranted.

To investigate this impression, I have reviewed all of the patients referred to me for psychiatric evaluation during 1963. During that year, 285 patients were referred to me for psychiatric examination and possible treatment. Many of these patients had obvious organic brain disease, such as cerebral vascular impairment, post traumatic symptoms, delirium tremens, psychosis associated with active systemic infection, etc. These cases were usually referred for assistance in management or for medico-legal reasons. I have omitted these cases from this study.

However, ten patients were referred as having emotional disorders and were later found to have organic diseases that were primarily responsible for the emotional symptoms that prompted the referrals. In each of these cases, the literature reports mental symptoms related to the disease that was finally identified. Unfortunately, the kind of mental symptoms do not seem to be consistent, which makes it easy not to think of a "brain syndrome" when the patient is studied.

I have reviewed these ten cases, looking for possible consistencies in the psychiatric manifestations.

Case Reports

#1. A 42 year old, attractive married woman was referred to me complaining of uncontrollable crying, emotional outbursts that were embarrassing and of a prevailing

feeling of depression. The patient attributed her nervous state, which had been increasing in intensity for five years, to domestic problems that she felt she had been unable to solve. In taking a routine medical history from this patient she mentioned that she had had recurrent diplopia, unsteadiness of gait, urinary tract infections, dysphagia and vaginal anesthesia. This patient attached very little importance to these symptoms. The preliminary psychiatric examination led to the conclusion that the patient had symptoms of a depressive reaction and that she was inappropriately belittling organic symptoms that seemed to have real medical importance. A neurological examination was then done and the findings were typical for a diagnosis of multiple sclerosis. Subsequent progression of the disease has definitely confirmed this diagnosis.

#2. A 55 year old married woman was referred for emergency hospital care with an admission diagnosis of severe depressive reaction. On psychiatric examination the patient was found to have typical but mild depressive symptoms, causing me to wonder why this had been considered to be an emergency situation. When a medical history was obtained, the patient very blandly reported that she had had neurofibromatosis for several years and had been under neurosurgical observation. The patient reported in an off-hand way that she also was dizzy, was unsteady on her feet, had intermittent diplopia and marked weakness. A neurological examination was immediately done and the patient was found to have bilateral papilledema, increased deep tendon reflexes in the left leg and generalized weakness. Subsequent surgical exploration revealed a sizable angle tumor on the left side in the posterior fossa. Histologically this tumor was a neuroma but its point of origin could not be determined. It was not possible to obtain a follow-up report on this patient.

#3. A 36 year old married man was referred originally in 1959 because of severe anxiety and phobic symptoms of six months' duration. The medical history was not helpful. The family history revealed that the patient had one sibling with severe mental deficiency. On psychiatric examination the patient reported recurrent spells of severe anxiety and phobic symptoms that shifted from one object to another. This man was treated for almost four years with intensive psychotherapy and drug therapy. During this time it was necessary to hospitalize the patient on four different occasions because of alarming suicidal tendencies. Throughout his illness, the patient emphasized (more than the usual patient would from the presenting pathology) various physical disorders such as a small umbilical hernia, abdominal symptoms and physical tension. Eventually the patient had a cholecystectomy and during convalescence he went into unexplained status epilepticus, his incision broke down and he eviscerated. After this the patient continued to have occasional grand mal convulsions and EEG and neurological examinations led to a diagnosis, in April, 1963, of convulsive disorder of undetermined cause. The patient continued to have uncontrollable intermittent convulsions and his psychiatric status did not improve. For these reasons he was admitted to a VA Hospital in September, 1964 and unexpectedly died on November 3, 1964, in the midst of a convulsion. An autopsy was performed and the central nervous system appeared normal. Throughout his illness this patient and his doctors did not discover the fact that he had a family history of epilepsy and it was only in the latter stages of his life that we realized that he had more than an uncomplicated anxiety-depressive neurosis.

#4. A 38 year old married farmer was referred as an emergency because of a "hysterical running-fit" and a feeling of approaching insanity. Just prior to this illness, the patient had worked all night and day stripping tobacco and had had no regular meals. When he finished the job he

decided to take a drink so he could relax before eating his first good meal in two days, and soon thereafter he took off in a dead run across a field, jumped a barbed-wire fence, tripped and fell. He was confused and the family carried him to see a doctor. When referred to me the patient denied previous illness and his psychiatric examination was completely normal. After careful questioning, the patient reluctantly admitted that he had had amnesia spells lasting ten to fifteen minutes since 1946 and that he had attached no importance to them. He had made no attempt to obtain medical help for this recurrent amnesia. Neurological examination and EEG were done and both were normal. In spite of this, a presumptive diagnosis of a convulsive disorder was made and the patient was placed on phenobarbital 60 mgm. q.i.d. and urged to get proper rest and food. On this program the patient had no recurrence of symptoms for the subsequent eighteen months.

#5. A 37 year old married man was seen for emergency consultation because he became combative following a fracture of his hip in an automobile accident. On psychiatric examination the patient obviously had a brain syndrome, but the etiology was difficult to explain because of his excellent general health and age. History subsequently obtained from the patient's wife revealed that he had sustained a head injury in World War II and that he had had seizures since 1946. EEG was done and was abnormal with a probable left temporal lobe focus. The final diagnoses were (1) acute brain syndrome, secondary to repetitive seizures; (2) convulsive disorder secondary to head trauma. After this patient symptomatically recovered, he still ignored much of his illness and hinted at having had a miraculous cure. The denial and belittlement of illness applied both to the patient's seizure disorder and his hip injury. The patient's wife confirmed that his pattern of life since 1946 had been one of denial of any illness or personal problem.

#6. A 38 year old single woman was referred by an industrial physician because of increasing problems with her work and fellow employees. Her symptoms of increasing nervousness, insomnia, loss of appetite, nausea and vomiting had been progressive for two years. Psychiatric examination indicated that the patient was depressed, had obvious anxiety and some paranoid thinking. A diagnosis of depressive reaction was made.

Later she was seen by a general physician who prescribed a barbiturate-anticholinergic preparation for abdominal symptoms. Four months after my first contact with this patient she was seen by a dermatologist for a skin eruption that had been recurrent for several years. The nature of the dermatitis suggested porphyria and laboratory studies confirmed this diagnosis. Prior to that time, the patient had avoided pointing out her dermatitis, obvious unsteadiness of gait, dizziness, paresthesias of a third finger left hand and fourth finger right hand and spotty numbness of her left leg. The patient was warned to take no barbiturates and she was treated symptomatically with chlorpromazine. The remission of her physical and psychiatric symptoms was prompt. A follow-up on this patient one year later indicated that the patient had done fairly well during the times when she would take chlorpromazine but at other times her dermatitis, mental symptoms, and neurological manifestations would recur.

#7. A 19 year old school girl was referred by her family physician because neither she nor her family "would co-operate with the doctor" in his recommended therapy program for her various vague illnesses. The physician had recently made a provisional diagnosis of virus infection with post viral encephalitis. When I saw the patient she had symptoms that were typical of paranoid schizophrenia. When the mother was interviewed it became ob-

vious that she herself had an emotionally unstable personality with prominent depressive symptoms. The patient's father would not co-operate and refused to submit to an interview. Her original physical examination was negative except for a psoriasis-like skin lesion, but she complained of symptoms in literally every organ system. My original impression was that the patient had a schizophrenic reaction.

Two weeks later I noticed that the patient had developed heat and swelling in all of her major joints, she complained of joint pain and began having fever. Her symptoms and repeat laboratory studies confirmed a probable diagnosis of collagen disease similar to rheumatoid arthritis. The illness was progressive and the patient was transferred to a research institution where a diagnosis of psoriatic arthritis was made. The patient was not expected to survive this illness.

#8. A 54 year old single woman was referred to the hospital from a police department. She had walked into the police headquarters in a confused state asking to be locked up so she would not kill herself. Psychiatric examination confirmed that the patient had a psychotic depression and was suicidal. On visual observation there was a slight erythema and tenseness on her right cheek that on palpation was hot and tense, with induration of the entire right side of the lower face and the patient was conspicuously toxic. With hospital care, compresses and antibiotics the cellulitis eventually localized and drained. Cultures revealed hemolytic staphylococcus aureus. As the infection came under control the psychiatric symptoms subsided and the patient was discharged from the hospital after six days. During the entire hospital stay, the patient never initiated discussion of her facial infection and subsequent abscess.

#9. A 61 year old married man was seen in consultation because of a suspected "involutional psychotic reaction or possibly neurasthenia". His symptoms were lethargy, generalized weakness, weight loss, crying and lower abdominal pain that occurred when the patient stood erect. These symptoms had been progressive for six months. Psychiatric examination indicated depressive symptoms with emotional lability.

A neurological examination was done and marked muscle weakness of the arms and legs was detected. In his arms the objective findings were far more severe than his complaints. There was conspicuous atrophy of intrinsic hand muscles, shoulder muscles and thigh muscles bilaterally. There were definite fasciculations and fibrillations of many muscle groups. A diagnosis of amyotrophic lateral sclerosis was made. The patient died a few weeks later.

#10. A 34 year old married man was seen in consultation because of severe pain in his left testicle that had been recurring for six years. The testicle was so painful that the patient could hardly move from one position to another, but he was able to have normal intercourse. The patient also complained of severe low back pain radiating into both legs. Recently his close friend had had a testicle removed for carcinoma and subsequently had died from metastasis. We initially suspected that this had influenced the patient's symptomatology.

History revealed that the patient had had polio fifteen years previously with residual atrophy and partial loss of the use of his left arm and leg. Eight years previously the patient had had a surgical correction for a large varicocele on the left side.

The psychiatric examination revealed a fearful but pleasant young man. He seemed to be grossly over-reacting to whatever pain he had in his testicle. He would grimace and clench his teeth at any movement whatever, but would lie quietly while his scrotum was being examined. Physical examination was negative. Laboratory studies revealed a very low sperm count.

When the patient had had polio he had been in the military service and had been

kept on duty for five days after seeking help for this illness. When the diagnosis was finally made, he was hospitalized for four months. The patient felt that with his present illness, he was once again having his symptoms misinterpreted by the physician. I felt that the patient would be psychiatrically unapproachable until every avenue of investigation was exhausted. Therefore an orthopedic consultation was requested for his back and leg pains and surgical exploration of the testicle was recommended. The orthopedic surgeon felt that the patient's back pain was secondary to a postural deformity resulting from muscle atrophy caused by polio, and he made corrective suggestions. A urologist removed the left testicle surgically and the pathological report revealed "epididymitis with tubules distended by tremendous numbers of degenerated and partially degenerated sperm and some type of fine crystalline material. The congestion is consistent with previous sectioning of the vas deferens." The pathologist reported verbally that when he looked at the microscopic specimen, he could almost see the testicle hurting. When discharged from the hospital the patient was symptom free for the first time in eight years and remained symptom free for the subsequent year of follow up.

Discussion

After reviewing these ten cases, I felt that there were consistent psychological findings that could increase one's index of suspicion of organic illness. The consistency seemed to be in the uniform use of defense mechanisms, rather than in the specific nature of the thinking disorder. For example, denial of symptoms were present in seven of the ten patients (patients 1, 2, 4, 5, 6, 8, 9). Two of the remaining three patients seemed to be putting down a "smoke screen" of many irrelevant symptoms and also belittling the significant symptoms in an apparent effort to obscure a feared organic diagnosis (patients 3 and 7). The defense value of this was as effective as denial. The final patient greatly magnified his symptoms, apparently to be sure that they were not ignored (patient 10).

Summary

These cases are presented to illustrate two clinical impressions:

(1). They reaffirm that many organic illnesses are first expressed by what seem to be clear-cut emotional illnesses. In a period of one year 285 patients were seen for psychiatric consultation among which were 10 previously unidentified cases of this type. Perhaps others remained undetected.

(2). All ten patients were consistent in reacting inappropriately to their organic symptoms. With the exception of one case, the symptoms were unconsciously denied or presented by the patient in a way that would tend to obscure the proper diagnosis. There also seemed to be a conscious intent, through belittlement of symptoms, for some of the patients to try to lead the physician away from what were, to the patients, feared diagnoses.

2404 Langhorne Road
Lynchburg, Virginia

The Development of Ophthalmology and Otolaryngology in Virginia

M. K. HUMPHRIES, JR., M.D.
Charlottesville, Virginia

The modern sophisticated specialties of ophthalmology and of otolaryngology have developed from near primitive conditions surrounding disease of the eye, ear, nose, and throat.

THE FIRST WRITTEN RECORD of the practice of eye, ear, nose and throat in Virginia is found in the April, 1773, issue of the first newspaper published in the State, the *Virginia Gazette and Weekly Advertiser*. This account stated that Dr. Graham, Oculist and Aurist, of Philadelphia would be in Williamsburg the middle of May for "consultation in all disorders of the eye, and every species of deafness, and that those persons who have been born deaf and dumb will probably be assisted." Later news items announced that Dr. Graham would give public lectures on the eye and the ear, and that he planned to appoint and instruct in each province a person to whom he would communicate the latest discoveries. Only those "regularly bred" in physic and surgery might apply, and a premium would be expected. He reminded readers that he had studied several years in Edinburgh and other places abroad. In a supplement to this issue, he described instances of cures of blindness and deafness as well as testimonials from the cured. This account was typical of the itinerant medical practitioner of that day.

In the 17th and 18th centuries, the great majority of the American physicians were forced to rely for their medical education upon the very defective system of apprenticeships. Between the ages of 14 and 18, the young medical student entered the office of some local practitioner under a three to seven year indenture. He had access to the doctor's often meager library, learned something of the preparation and use of drugs, and was taught how to bleed, cup, extract teeth, and perform a few minor operations. An accident might furnish the apprentice with an arm or leg, the dissection of which constituted his only practical knowledge of human anatomy. No doubt some of these apprentice trained doctors were competent, yet there was great opportunity for fraud, and many ignorant men claimed to have studied under eminent masters. The doctor during this period was still seriously handicapped by his devotion to theory, and his conception of the cause and mechanism of disease was as faulty as it had been a hundred years before. The mainstays of treatment were calomel, opium, ipecac, and the famous rattlesnake root.

Dr. James Tuder Tucker of Virginia prescribed in 1785 for his brother in Williamsburg who complained of hoarseness, chest pain and fever, the following:

"I recommend to lose a little blood, possibly a repetition of it in small quantities several times. . . . A blister on the part, especially after losing a little blood and taking some laxative. Rubbing the chest with a flesh brush and wearing a bit of flannel upon the spot under the shirt. Preventing

Presidential Address presented to Virginia Society of Ophthalmology and Otolaryngology, Williamsburg, May 7, 1965.

costiveness by taking occasionally a little soap and rhubarb to which some Bermuda aloes might be added, unless it should prove too stimulating and bring on the piles. A light diet would be advisable. Cheese whey might be drunk with advantage as a common drink and cold hoarhound tea taken as medicine two to three times a day. I cannot safely venture to prescribe further for you."

Two 18th century Virginia physicians of note were Dr. W. Baynham and Dr. J. F. Mettauer. Dr. William Baynham was born in 1749, in Caroline County, and was apprenticed to Dr. Thomas Walker, Castle Hill, Albemarle County, at the age of 20. After five years of study with Dr. Walker, he sailed to London to continue his study of Medicine. He became an anatomist and surgeon at the University of Cambridge. After practicing for several years in London, he returned in 1785 to practice in Essex County. Dr. Baynham performed numerous operations for cataract and was summoned far and wide in the exercise of his skill.

John Peter Mettauer was born in 1787, the son of Francis Joseph Mettauer, who came to this country as surgeon to the French troops under Rochambeau and settled in Prince Edward County. He was educated at Hampden-Sydney College and the Medical Department of the University of Pennsylvania. He started the Prince Edward Medical Institution at Worsham in 1837, which was chartered under Randolph-Macon College in 1847. He had few intimates and many eccentricities. He lectured in kid gloves, never attended church or social gatherings, and always wore a stovepipe hat, believed to hide his baldness. His coffin was made eight feet long so that he would not have to break his custom in death. He is said to have performed more than 800 operations for cataract at a time when cocaine was unknown, and to have been one of the first in this country (1827) to operate successfully for cleft palate, using an original method. He died November 22, 1875, and was buried in the College churchyard at Hampden-Sydney.

Two native Virginians who distinguished themselves out of the State, were Dr. William Horner and Dr. Joshua Cohen.

William Horner was born in Warrenton, in 1793, and attained distinction as an anatomist, succeeding Philip Physick in the chair of anatomy at the University of Pennsylvania in 1831. In 1822, he described for the first time a muscle on the posterior surface of the lacrimal duct and sac which controls the flow of tears into the nose. First called by him the tensor tarsi, it has become known to subsequent anatomists as Horner's muscle. He also devised an operation for the cure of ectropion of the lower eyelid.

Joshua Cohen was born in Richmond, in 1801, and was one of the earliest otologists, perhaps the first, in this country. He graduated from the University of Maryland in 1823, and devoted himself to the study of ear diseases. He was a founder of the Eye and Ear Institute in Baltimore.

Among the outstanding doctors who practiced in Virginia in the early 19th century was James Bolton. In 1842, he published a Treatise on Strabismus with a description of new instruments designed to improve the operation. It was illustrated by cases and was widely commented upon and quoted both in this country and abroad. The operation was performed without anesthesia and antiseptics, with few instruments and with the help of one assistant. It consisted of a simple tenotomy of the internal rectus muscle. In an attempt to diminish the temptation to wink, the author invented the steel hook with its guard and said that he was much gratified at finding it so completely successful in rendering the operation much more easily "borne". He considered it applicable to every period of life, from childhood to old age, with equal prospects of success and reported eight cases affirming that in every instance the squint had been entirely removed.

In March 1851, the *Stethoscope* and *Virginia Medical Gazette* published the following Tariff of fees adopted by the Medical Profession for the City of Richmond:

Extirpation of tonsils	$10 to $50
Extirpation of Eye	$100
Operation for Cataract	$50 to $100
Operation for Artificial Pupil	$50 to $200
Other operations on the eye and Its Appendages	$5 to $20
Laryngotomy or Tracheotomy	$20 to $50

The description of a cataract operation by Dr. A. E. Peticolas of Richmond, Virginia, appeared in the *Virginia Medical Journal* in 1858. The patient was a Negro farm hand, age 50 and was operated on in the recumbent posture. "The lens was thoroughly depressed into the vitreous and the restoration of vision was immediate. Intractable inflammation followed but under the influence of local bleeding, arterial sedative, counter-irritation and mercury, the symptoms gradually abated, the lymph was in a great measure reabsorbed and a comparatively useful condition of the organ attained".

Modern surgery was born with the introduction of anesthesia. Ether and chloroform were introduced in the late 1840's and Cocaine as a local anesthestic came into use in the late 1870's. General anesthesia was obtained by chloroform or ether, but the large percentage of Virginia doctors preferred chloroform. With the introduction of cocaine, the number and success of eye and ear, nose and throat operations rapidly increased. The literature is replete with case reports ranging from cataract extraction, iridectomy, removal of nasal polyps, laryngeal examination, myringotomy, to tonsillectomy and tracheotomy.

About the same time, the revolutionary principle of Listerian antisepsis was slowly coming into vogue in Virginia. A Richmond medical student in 1879 recalls one of Dr. George Ben Johnson's first operations and states that the air in the operating room was purified by using an atomizer containing a solution of carbolic acid to spray the room completely. Dr. Hunter McGuire was slow in endorsing efforts at antisepsis and in 1884 declared, "It is often impossible to carry out Listerism with all its tedious minuteness. Moreover, it is often unnecessary, the pure country air of Virginia being in itself aseptic."

Specialization began to become popular in America about 1870, thriving chiefly in the larger cities. William Brodie, president of the A.M.A., declared in 1886 that members of the profession had begun to realize that by devoting themselves to one branch instead of working up a general practice, they could often do more good, earn more money and have less arduous work to perform.

However, the great body of the profession was still suspicious of the new tendency because for a long time the country had been overrun with quacks claiming special powers over disease and advertising widely in the papers. Quite naturally, therefore, when certain men within the medical profession itself began to make claims of skill beyond the reach of the average practitioner, suspicion and antagonism were engendered. The A.M.A. resolved "that it shall not be proper for specialists publicly to advertise themselves as such, or to assume any title not specially granted by a regularly chartered college", and The Medical Society of Virginia went on record, October, 1871, declaring "that we deprecate all circulars and other advertisements of specialists, as contrary to the letter and spirit of our system of ethics and should be discountenanced by all good men."

In spite of these warnings many Virginia physicians were to be found advertising in 1871. An editorial writer remonstrated "when one calls himeslf a specialist in surgery, in diseases of women, diseases of the eye, ear, etc., he should refuse all other cases of diseases except those embraced within his

specified or special branch. There are few specialists simon-pure this side of New York. Perhaps Baltimore may have one, all of the others, so-called, are willing and glad to treat any case from worms to ovariotomy." Regardless of all opposition, specialization continued to advance and gradually the public and the general practitioners, as well, accepted and began to like it.

Diseases of the eye, ear, nose and throat as specialties began to assume importance early in the 19th century. The oldest was ophthalmology. Otology was shortly associated with it. It was not until the middle of the century that laryngology became a specialty.

In Virginia during the first quarter of the 19th century, there were no medical schools. Several had been initiated but lasted only a year or two. The University of Virginia Medical School under Dr. Robley Dunglison was opened in 1824 and the Richmond Medical School, chartered under Hampden-Sydney College, opened in 1838.

The transition to pure specialists in eye, ear, nose, and throat was rather slow in Virginia, and in 1860, they were still lacking. I quote from Dr. Wallace Gill of Richmond. "My mother, a native of Bermuda-Hundred, developed eye trouble while attending Davis Female College in Petersburg, Virginia in 1865. She had to take the York River Line boat from West Point to Baltimore to see Dr. Chisholm, an eye specialist, as there were none in Virginia."

We come now to the period of the dispensary, so-called because its chief function was to dispense medicines and salves to the indigent. In 1869, the catalogue of the Medical College of Virginia advertised clinical instruction under Dr. Francis Deane Cunningham in the use of the ophthalmoscope and the otoscope. The catalogue states that "a dispensary for diseases of the eye and ear has been established in the College Hospital under the direction of Professor Cunningham and affords many valuable opportunities for clinical instruction in these important classes of disease. Special lectures are given upon anatomy and pathology of the organs in question and the use of the ophthalmoscope and otoscope as means of diagnosis is explained and exemplified." This marked the beginning of instruction in these fields in Virginia.

The second infirmary and dispensary, the Richmond Eye, Ear and Throat Infirmary and Dispensary, organized to give gratuitous medical attention to the poor of the City and State, was incorporated on October 13, 1879. It was headed by Dr. Joseph A. White, who was invited to Richmond from Baltimore where he had been professor of Ophthalmology and Otology in Washington University. In 1887, it was stated that this Dispensary was the largest special hospital in the South with accommodations for 25 patients. During the first 15 years of its existence, 323 cataract operations were performed and 138 tonsillectomies. Dr. White was a constant contributor to medical literature, and invented a self-retaining palate and tongue retractor and a galvano-cautery handle with various attachments to operate upon the nose and throat. He was the originator of an ointment containing bichloride of mercury in vaseline which was used for sterilizing the eye. Apparently consultation and referral was first suggested by him in an article published in 1886 entitled "The Grave Importance of Early and Accurate Diagnosis When Eye Sight is Failing". "When a physician is not fairly satisfied from all available tests that his diagnosis is accurate, it is much better for such patients to make an apparently useless trip to consult an Oculist than to take such chances of waiting for a development in the case, as such waiting may result in permanent blindness and by such consultation, the physician is relieved of the grave responsibility which he otherwise assumes in such cases."

The University of Virginia Dispensary had its beginning in 1826 under Dr. Robley Dunglison, but showed little growth

before 1886. In 1895, a new dispensary was constructed; a large rectangular building on the west end of George Rogers Clark Park. Across the street, on the corner of 14th and Main Streets, beside the C & O Railroad, an annex was established, to which patients were taken after operation on stretchers by medical students. In this dispensary, Dr. Paul Barringer removed the left eye of Colonel John B. Mosby, the famous Confederate Ranger who was suffering from an old injury.

At that time, there was no eye, ear, nose and throat specialist in Charlottesville. Dr. Barringer opened an office for the purpose of treatment of the EENT patients. This practice was soon so successful that it required more of his time than he could afford. It was turned over to a former student, Dr. H. S. Hedges, who had studied in this field. Dr. Hedges was appointed Professor of Eye, Ear, Nose and Throat in 1898, at a salary of $500 per year. At that time, there was no hospital and his duties of lecturing and attendance in the outpatient clinics consumed two to three hours per week. Dr. Hedges was the first physician in Charlottesville limiting his work in Eye, Ear, Nose and Throat.

Although the University of Virginia Medical School was founded in 1824, the first unit of the University Hospital was not opened until 1901. Seven operations were scheduled for the opening day; the last of which was a cataract extraction by Dr. Hedges. He is the only surviving physician who performed an operation on this day, and will be 99 years old September 30, 1966.

The growth of the specialties is indicated by the increasing number of articles found in the Virginia Medical Monthly 1893 to 1915, from mucocele of the antrum, empyema of the frontal sinus with external drainage, cataract extraction, temporal abscess from otitis media and mastoiditis, strabismus surgery, removal of ocular foreign bodies with a magnet, the correction of saddle back nose, to preventive medicine.

There was a short article by Dr. John Dunn upon the use among the Negroes of urine in inflammatory affections of the eye and throat. This reminded the writer of the story told by a childhood fishing companion. The boy's father's remedy for sore throat was a 24 hour collection of the patient's urine, plus two tablespoons of sugar, to be gargled every two hours. The boy had only one sore throat in his life!

The Virginia Society of Ophthalmology and Otolaryngology was the first specialty society authorized by The Medical Society of Virginia as a branch of that group. On October 27, 1920 at the Petersburg meeting, authority to organize an Ophthalmology and Aural section of The Medical Society of Virginia was requested and granted and an organizational meeting was held the same day. Dr. Harry B. Stone's paper "Retrospect" covered the history of this society admirably.

The role of the two remaining medical schools, the Medical College of Virginia and the University Medical School, in the development of Ophthalmology and Otolaryngology cannot be overemphasized. Residency training was established and developed. Since 1925, there have been more than 125 men trained in our specialties at these two schools and 43% have elected to practice in Virginia.

The heads of the departments in these two schools over the years have been:

The Medical College of Virginia

	Ophthalmology	*Otolaryngology*
1913	Dr. Jos. A. White Professor	Dr. John Dunn Professor—Rhinology-Laryngology
1923	Dr. Jos. A. White Professor	Dr. Joseph White Otology-Laryngology
1929	Dr. Emory Hill Professor	Dr. Karl S. Blackwell Professor—Otolaryngology

1938	Dr. Robt. Courtney Professor	
1941		Dr. Peter Pastore Professor—Otology, Rhinology and Laryngology
1953	Dr. DuPont Guerry Professor	

Until 1942, the resident training program was a dual affair, each rotated through the eye department and also the Ear, Nose and Throat department. The training of residents became a completely separate program at Medical College of Virginia in January, 1942.

The University of Virginia Medical School

	Ophthalmology	*Otolaryngology*
1898	Dr. Halstead H. Hedges Professor, Ophthalmology	Dr. Halstead H. Hedges Professor, ENT
1906	Dr. H. S. Hedges Professor of Eye	Dr. Robert Compton Professor of ENT
1925		Dr. Fletcher Woodward Professor of ENT
1937	Dr. Edwin Burton Professor of Eye	
1947		Dr. G. S. Fitz-Hugh Professor of ENT
1965	Dr. M. K. Humphries, Jr. Associate Professor and Chairman of Department of Ophthalmology	

The training of residents was a dual affair, both Eye and Ear, Nose and Throat, until 1947 at which time the program was completely separated.

The building of hospitals, now 135, in every section of Virginia, has done much to make the specialties of Ophthalmology, and Otolaryngology available to all the people and not to just a few. The population has increased from 1 3/4 million in 1900 to 4 1/2 million in 1965, while the membership of the Virginia Society of Ophthalmology has grown from 20 at its inception in 1920 to 173 in 1965. The specialties have been separated and each has had subspecialization.

The untiring efforts of many have contributed to the development of our specialties. It is now our privilege to continue this progress.

Bibliography

1. Medicine in Virginia in the 18th Century.
2. Medicine in Virginia in the 19th Century—Wyndham B. Blanton, M.D.
3. Virginia Medical Monthly, 1874-1925.
4. Virginia Gazette and Weekly Advertisers, April 1773, May 1773, May, 1788.
5. Richmond and Louisville Medical Journal, 1878.
6. Review of Ophthalmology in America, 1800-1870; Alvin A. Hubbell.
7. The Virginia Medical Journal, Vol. 11, 1858.
8. The Catalog of the Medical College of Virginia for the session 1869-1870 and 1887-1888.
9. Virginia Medical Journal, 1859, Vol. 12 & 13.
10. Maryland and Virginia Medical Journal, Vol. 16, 1861.
11. Transactions of The Medical Society of Virginia, 1886, pages 89-91; 1872, pages 128-145.
12. Virginia Clinical Record, 1875, Vol. 3, P. 140.
13. Friedenwald: American Ophthalmological Society. Archives of Ophthalmology, 1940. Vol. 23, pages 1-21.
14. The Natural Bent-Memoirs of Paul Barringer by Anna Barringer, 1949.
15. "Development of Modern Ophthalmology in One Lifetime". American Journal of Ophthalmology. Vol. 23, 1940.
16. The University of Virginia Hospital (Its First 50 Years) by Sarah S. Matthews, R.R.L., 1933.
17. The History of Laryngology and Rhinology and the Influences of America in the Development of This Specialty by J. H. Bryan. Annals of Medical History, Vol. 5.
18. History of Medicine—C. C. Mettler, 1947.
19. Early History of Otology in America with Special Reference to the American Laryngology, Rhinology and Otology Society. Annals of Otology and Laryngology, Vol. 45, 1936.
20. Virginia Medical Journal, Vol. 10, Page 282, April, 1858.
21. The Ophthalmoscope as a Diagnostic Means in Various Forms of Disease. Richmond and

Louisville Medical Journal, December, 1878.
22. The Results of Clinical Work at Richmond, Virginia Eye, Ear, and Throat Infirmary. Virginia Medical Monthly, January, 1887.
23. Stethoscope and Virginia Medical Gazette, 1851-1860.
24. American Encyclopedia and Dictionary of Ophthalmology—Casey A. Wood, 1917.

Personal Communication:

Dr. Edwin Burton, Charlottesville, Va.
Dr. C. C. Cooley, Norfolk, Va.
Dr. F. Jason Crigler, Charlottesville, Va.
Dr. Chalmers L. Gemmill, Charlottesville, Va.
Dr. G. Slaughter Fitz-Hugh, Charlottesville, Va.
Dr. W. Wallace Gill, Richmond, Va.
Dr. James R. Gorman, Lynchburg, Va.
Dr. DuPont Guerry, Richmond, Va.
Dr. George G. Hankins, Newport, News, Va.
Dr. Halstead S. Hedges, Charlottesville, Va.
"Early History of Medical School", University of Virginia
Miss Thelma V. Hoke, Richmond, Va.
Director of Publications, M.C.V.
"Chronology of Eye, Ear, Nose, and Throat Department"—Medical College of Virginia
Dr. Francis McGovern, Danville, Va.
Dr. Peter N. Pastore, Richmond, Va.
Dr. H. Grant Preston, Harrisonburg, Va.
Dr. Charles N. Romaine, IV, Richmond, Va.
Dr. L. Benjamin Sheppard, Richmond, Va.
Dr. Harry B. Stone, Jr.
Presidential address to Va. Society of O&O 1964 "Retrospect"
Dr. Harry B. Stone, Sr., Roanoke, Virginia
Dr. Neilson H. Turner, Richmond, Va.
Dr. E. U. Wallerstein, Richmond, Va.
Dr. Fletcher D. Woodward, Charlottesville, Va.
"Chronology Eye, Ear, Nose and Throat Department, University of Virginia 1898-1951"

1400 Jefferson Park Avenue
Charlottesville, Virginia

"Your Friend the Doctor"

A child often asks, "Why should I go to the doctor when I'm not sick?" For children, the need for a routine health examination may be puzzling, even worrisome. That's why the American Medical Association has prepared a new booklet called "Your Friend The Doctor."

It's written for children in the early years of elementary school, and tells the story of Tom, a boy who visits his family physician for a checkup. The story tells how Tom and Dr. Brown discuss his examination as it proceeds, step by step. Purpose of the book is to illustrate the values of preventive health care services. The importance of keeping immunization levels up to date and periodic health examinations are covered.

"Your Friend The Doctor" is written in language easily understandable by children in the primary grades. Some difficult words are purposely included, however, to help the child learn the correct labels for parts of his body and for the instruments used by the physician. A glossary explains these words; parents can use it in helping their child learn the terms.

Prepared by Lisbeth P. Sanders in cooperation with the staff of the AMA, the booklet has bright, four-color illustrations by H. L. Hinkelman.

Individual copies are available at 40 cents; in orders of 50 or more, 38 cents; 100 or more, 36 cents; 500 or more, 34 cents, and 1000 or more, 30 cents.

Send requests to the American Medical Association, 535 N. Dearborn St., Chicago, Ill. 60610.

Twenty-Three Cases of Attempted Suicide with Firearms

J. I. DE LA TORRE, M.D.
H. S. ABRAM, M.D.
Charlottesville, Virginia

Twenty three cases of suicidal attempts are described. These cases have several characteristics in common.

FROM JULY 1, 1963, to July 1, 1965, the Consultation Service of the Department of Psychiatry at the University of Virginia Hospital evaluated twenty-three patients with self-inflicted gunshot wounds. The psychiatric consultation service yearly evaluates approximately 600 medical and surgical patients admitted to the general hospital. This study attempts to delineate the type of patient with self-inflicted gunshot wounds referred for psychiatric evaluation and the post hospitalization course of these patients over a one to two year period.

Method

The hospital records of seventy-eight patients discharged with the diagnosis of "gunshot wound" during the period July 1, 1963, to July 1, 1965, were reviewed (Table I). Only patients in which the gunshot wound was classified as "suicidal" (23 in all) and not "accidental" were included in the study. Most of these twenty-three patients were evaluated in psychiatric consultation during their admissions. All patients in the group of twenty-three remaining alive (17) were contacted by mail or telephone 1-2 years after their discharge and asked to return for a follow-up interview. In several cases home visits and in one case a visit to the local jail for purposes of interviewing were necessary. Interviewing technique with the patients was nonstructured but attempted to establish a diagnostic impression, the events surrounding the suicidal attempt in retrospect, and a general impression of the patients' post hospital adjustment.

TABLE I

GUNSHOT WOUND ADMISSIONS
UNIVERSITY OF VIRGINIA HOSPITAL
JULY 1, 1963 TO JULY 1, 1965

Category	*Number*
"accidental"	55
"suicidal"	23
	78 total

From Department of Neurology and Psychiatry, University of Virginia Hospital, Charlottesville.

Results

Six of the twenty-three patients evaluated during hospitalization died before discharge. Of the seventeen remaining patients two died before the follow-up interview: one of carcinoma of the prostate, the other after another suicidal attempt with an overdosage of medication. This latter case represents the *only* repeated suicidal attempt in the series:

Mr. L. C., a 43 year old married carpenter, was admitted to the University of Virginia in 1963 with a self-inflicted gunshot wound of the right upper chest. Previous psychiatric history revealed chronic alcoholism, a psychotic break, and two suicidal attempts in 1961 with overdosages of barbiturates. Diagnosis included depressive and anxiety reactions in a passive, inadequate

individual. After discharge in 1963 he received sporadic psychiatric treatment but again eleven months later made his fourth suicidal attempt, this time successfully.

Of the fifteen remaining patients, fourteen were contacted. The fifteenth could not be traced. All fourteen were alive 1-2 years following discharge from the hospital and had made no further suicidal attempts. Eight were personally interviewed. The records of these patients, the seven patients who would not come in for an interview and the six patients who died during hospitalization, were reviewed in detail (Table II).

TABLE II

PATIENTS WITH SELF-INFLICTED GUNSHOT WOUNDS

Category	*Number*
Died during hospitalization	6
Died after hospitalization but before follow-up	2—1 with cancer 1 following fourth suicidal attempt
Personally interviewed	8
Not returning for interview but charts reviewed	7
	23 total

The findings are as follows:

Sex: Seventeen were male and six female.

Age: The average age for the male was 40.6 years with a range from eighteen to eighty-three years.

The average female age was 35.3 with a range from twenty-one to fifty-six years.

Race: Twenty-one were Caucasian, two Negro.

Marital Status: Seventeen were married, five single or separated, and one widowed.

Religion: Basically distributed among the Protestant denominations; there were no Catholics or Jews.

Education: Most patients as noted had a grade school education or less. Occupational status of the patients, save for three, was semi- to unskilled laborers.

Alcoholism: Ten of these patients gave a well documented history of excessive alcoholic intake; the over-all incidence was probably higher. This factor is discussed in more detail later.

Previous Suicidal Attempts: Four patients attempted suicide in the past. Suicidal attempts in members of the family occurred in four cases.

Area of Body Injured: Nine patients shot themselves in the chest, eight in the head region (e.g., mouth, eyes, jaw), five in the abdomen, one in the arm. (One of these patients shot himself in the arm and abdomen, another three times in the precordial area approximately five to fifteen minutes apart and was unsuccessful in his attempt to kill himself.)

Ten patients used .22 calibre pistols and rifles, four used .38 calibre bullets, three used .32 calibre weapons, and two used shotguns. In three cases the types of weapon was unknown.

Psychiatric Diagnosis: Nine patients were diagnosed as passive-dependent or passive-aggressive character disorders, three as depressive reactions, three as alcoholics, two as schizophrenic reactions, and two as having chronic brain syndromes. Six had no psychiatric diagnosis.

Psychiatric Disposition and Follow-Up: Three patients were transferred to psychiatric in-patient services. The remaining fourteen were discharged home from the hospital with the advice to return for psychiatric follow-up; however six did not make or keep their appointments. Of the eight who returned for their appointments, only two became actively involved in a psychotherapeutic relationship. Both of these patients went to private psychiatrists; the others were to return to the Mental Health Clinic. Table III lists the above findings.

An interesting finding of the study was the marked resistance this group of patients showed when asked to return a year or more after discharge for a follow-up interview by the psychiatrist. They were particularly recalcitrant, would not answer letters or telephone calls requesting them to return for follow-up, and even when visited in

TABLE III

SUMMARY OF FINDINGS

Patient	Age	Sex	Race	Religion*	Marital Status	Education and/or Profession	History of Alcoholism	Previous Suicidal Attempts	Area of Body Injured	Psychiatric Diagnosis	Follow Up
1. WCK	42	M	W	M	M	Merchant	.....	Yes	Forehead	Depression	Died during hospitalization
2. JSC	51	M	W	.....	S	Unemployed	.....	.....	Face	.....	Died during hospitalization
3. MSW	56	F	W	M	M	Retired Teacher	.....	.....	Temporal Area	Chronic brain syndrome	Died during hospitalization
4. ERG	39	M	W	.....	M	Steel worker	.....	.....	Temporal area	.....	Died during hospitalization
5. JRMc	52	M	W	E	M	Insurance agent	.....	.....	Mouth	.....	Died during hospitalization
6. CMP	53	M	W	B	M	.....	Yes	Yes	Chest, Abdomen	Chronic brain syndrome	Died during hospitalization
7. KAS	83	M	W	M	W	Retired Farmer	.....	.....	Eye	.....	Died of cancer
8. LRC	43	M	W	P	M	Carpenter	Yes	Yes	Chest	Passive-dependent Character disorder	Died. Had Ment. Heal. Clin. follow-up 2 mos. prior to last successful suicide attempt
9. TDF	35	M	W	B	M	Grade School Caretaker	Yes	No	Chest	Passive-aggressive Character disorder	None
10. CCF	42	M	W	.....	Se	Grade school Plumber	Yes	No	Jaw	Passive-dependent Character disorder	None
11. AN	33	M	W	.....	Se	Grade school Unemployed	Yes	No	Eye	Passive-dependent Character disorder	Transferred to state hospital
12. JM	21	F	N	B	Se	Grade school Domestic	No	No	Xyphoid	Schizophrenic reaction	Sporadic
13. JRB	41	M	W	M	M	Business man	No	No	Chest	Passive-aggressive Character disorder	Therapy by private psychiatrist
14. WDS	32	M	W	.....	M	Grade school Maint. man	No	No	Chest	Passive-aggressive Character disorder	Four visits to Mental Health Clinic: Refused to return
15. EJT	35	F	W	.....	M	.....	No	No	Abdomen	Depression	None
16. MBG	27	F	W	Ch	M	Grade school Waitress	No	No	Chest	Passive-aggressive Character disorder	Therapy by private psychiatrist
17. IB	21	M	N	.....	M	Grade school Salesman	Yes	No	Abdomen	Schizophrenic reaction	None
18. DHL	30	M	W	P	M	Grade school Woodman	Yes	Yes	Chest	Alcoholism	None
19. HLS	18	M	W	P	S	Grade school Laborer	.....	.....	Arm	.....	One visit to Ment. Heal. Clin.
20. HNT	28	M	W	Ch	M	Grade school Hauls wood	Yes	.....	Chest	Passive-dependent Character disorder	Had Ment. Heal. Clin. follow-up for one month
21. BJB	48	M	W	B	M	Grade school Lineman	Yes	.....	Abdomen	Alcoholism	Transferred to Psy. Inpt. Serv.
22. GSS	42	F	W	B	M	Grade school Housewife	Yes	.....	Arm and shoulder	Passive-dependent Character disorder	None
23. BRM	31	F	W	.....	M	Grade school Housewife	No	No	Chest	Depression	Transferred to Psy. Inpt. Serv. Failed further follow-up

*B—Baptist
Ch—Christian
E—Episcopal
M—Methodist
P—Presbyterian

their homes refused to cooperate. Strong resistance was encountered when the initial suicidal attempt which had brought the patient to the hospital was mentioned. Denial as a major mechanism of defense was prominent. For example,

Mr. I. B., a 21 year Negro separated male with a minimal grade school education, had a long history of violence. In the past he was shot by a prostitute, once by a boxing opponent, and was earlier involved in a stabbing incident. At age 12 he was noted to have a "personality problem" and was unhappy in school. Excessive use of alcohol was also among his "problems".

He did not respond to two letters asking him to return for an interview. His mother reluctantly contacted her son by phone (after being reassured we were not bill collectors). A subsequent interview with him was held over the telephone as he refused to come in person. He denied the suicidal attempt which had brought him to the hospital and stated it was due to an "accident." Earlier during his hospitalization he had admitted to the psychiatrist his intent to kill himself.

Discussion

There are many aspects of suicide pertaining to this report recorded in the literature.[1-7] However our interest centered in three specific areas. The first dealt with the type of patient referred for psychiatric valuation. Our series points to a common personality structure and background in many of the patients. Typically the patient was a male of low socio-economic background, with little formal education, often with a history of alcoholism, and who exhibited difficulties with the control and expression of aggressive feelings. Although our sample is relatively small and biased by the patients not being randomly selected, we believe it does represent the suicidal self-inflicted gunshot wound patient admitted to our hospital. A pattern of reacting to stress and conflict through a primitive expression of rage (i.e through fighting and killing) was not uncommon. Culturally and educationally these patients were deprived. Violence and the use of firearms was to some extent socially acceptable and relatively common in their subgroup. The second factor is closely related to the first and is concerned with the events surrounding the suicidal attempt. Although our data is not complete in this area, a few of the patients gave a history of a "lover's quarrel" immediately prior to the attempt. For example, in one case a young man was recently jilted by his girl friend, in another a patient was extremely jealous of his wife and thought she was being unfaithful. In some cases the suicidal attempt was done *impulsively* and *vengefully* to "get back" at the lover or spouse. The patient unrealistically would think of "being around" (in spite of his being dead) to watch "how sorry" the other was that she had left her lover or had been unfaithful.

The third and last factor dealt with the post hospitalization course of these patients. What happened to them after discharge from the hospital? Did they attempt to shoot themselves again? Would they follow through with psychiatric treatment? As noted only three patients were referred to psychiatric in-patient services; the other fourteen were discharged home directly from the surgical service. Only one of these patients attempted suicide within a one to two year follow-up, the critical period usually given for reattempted suicide.[4] These patients therefore did not fit into the category of psychotically depressed or schizophrenic patients who need prolonged hospitalization to prevent further suicidal attempts. Rather because of the impulsive aspects of their attempts and the fact that at times the vengeful motive was effective (i.e. the lover or spouse would come back to the patient or the family would draw closer) further attempts did not occur. On the other hand these patients were notorious in not following through with psychiatric treatment on an out-patient basis; only two of the seventeen formed any psychothera-

peutic relationship with a psychiatrist following discharge. On follow-up they showed marked resistance and denial of any psychological factors being involved in their hospitalization for self-inflicted wounds.

Summary

This report describes twenty-three cases of serious suicidal attempts with firearms seen in psychiatric consultation at the University of Virginia Hospital over a two year period. Typically the patient was a male of low socio-economic status and educational background, with a history of alcoholism, violence, poor impulse control, and difficulties in handling aggressive feelings. The use of firearms was socially and culturally acceptable. Vengeful motives and excessive alcoholic intake were often associated with the attempts. Although further suicidal attempts were extremely rare, occurring only in one case, response to psychiatric intervention was poor.

Bibliography

1. Hove, H.: Future of Intended Suicides. (Abst.) J.A.M.A. 152: 1649, 1953.
2. Kessel, N. and G. Grossman: Suicide in Alcoholics. Brit. Med. J. 2: 1671-1672, 1961.
3. Norvig, J. and B. Nielsen: A Follow-up Study on 221 Alcohol Addicts in Denmark. Quart. J. Studies on Alcohol. 17: 633-642, 1965.
4. Pokorny, A.: A Follow-up Study of 618 Suicidal Patients. Am. J. Psychiat. 122: 1109-1116, 1966.
5. Pokorny, A.: Characteristics of Forty-four Patients Who Subsequently Committed Suicide. Arch. Gen. Psych. 2: 314-323, 1960.
6. Pokorny, A.: Suicide Rates in Various Psychiatric Disorders. J. Nerv. and Ment. Dis. 139: 499-506, 1964.
7. Schneidman, E.: Clues to Suicide. New York, McGraw-Hill, 1957.

Department of Neurology and Psychiatry
University of Virginia Hospital
Charlottesville, Virginia

Immunological Studies of Patients with Colonic Neoplasms

The cooperation of physicians is requested in the referral of patients for immunological studies of patients with colonic neoplasms being conducted by the Surgery Branch of the National Cancer Institute at the Clinical Center, National Institutes of Health in Bethesda, Maryland.

Needed for these studies are patients who have familial polypoidosis or villous adenoma, and a limited number with adenomatous polyps and invasive malignant disease of the colon and rectum. Using various immunological techniques, selected patients will be extensively investigated both pre- and postoperatively.

Physicians interested in having their patients considered for admission to these studies may write or telephone: Alfred S. Ketcham, M.D., Clinical Center, Room 10-N-116, National Institutes of Health, Bethesda, Maryland 20014, Telephone: 656-4000, Ext. 64164 (Area Code 301)

A Group Method of Mobilizing Clergymen To Meet Community Mental Health Needs

JOHN H. PARKS, M.D.
Charlottesville, Virginia
FRANK KIMPER, B.D., Ph.D.
Claremont, California

240,000 clergymen responsible for the spiritual well-being of 100,000,000 Americans may be able to serve their parishioners in a new way.

IN THE BOOK ACTION FOR MENTAL HEALTH[1] in the chapter entitled "Summary of Recommendations," under the heading "Services to Mentally Troubled People," it was recommended that "persons who are emotionally disturbed should have the earliest possible treatment. In the absence of fully trained psychiatrists, clinical psychologists, and psychiatric social workers, and psychiatric nurses, such counseling should be done by persons with some psychological orientation and mental health training and access to expert consultation as needed." These persons include "clergymen, family physicians, teachers, probation officers, public health nurses, sheriffs, judges, public welfare workers, scout masters, and county farm agents. Professional persons, fully trained, should be available for systematic consultation with these mental health counselors. The basic functions of these consultants would be to provide on-the-job training, general professional supervision of subprofessional activities and the moral support and reassurance found to be essential for most persons working with the emotionally disturbed or mentally ill."

In Americans View Their Mental Health[2] a survey team from the University of Michigan found that one person out of every four had had at some time a problem in which professional help would have been useful, one out of seven had actually sought help. Among those who sought help 42% reported marriage problems, 18% reported personal adjustment difficulties, and 12% reported problems with their children. Of those seeking help 42% consulted clergymen, 29% consulted physicians in general, 18% psychiatrists or psychologists, and 10% social agencies or marriage clinics.

More than 100 million Americans are church-goers. Of the total population of 190 million people more than nine out of ten persons say they believe in God.

The last edition of Handbook of Denominations in the United States listed 266 separate denominations. Therefore, there is a great variety in the philosophical and theological orientation of church groups available to Americans. There are approximately 240,000 clergymen responsible for the spiritual well-being of the 100,000,000 Americans who are church-goers. This would indicate the average clergyman has a congregation membership of about 400 active church-goers, about the same proportion as patients to psychiatrists in many of our state mental hospitals.

Important questions face us today: How well trained is the average clergyman in meeting the mental health needs of his com-

PARKS, JOHN H., M.D., *Assistant Professor of Psychiatry, University of Virginia.*
KIMPER, B.D., Ph.D., *Professor of Pastoral Counseling, School of Theology.*

munity? Can he assess emotional problems adequately? Can he meet the specific emotional needs of his parishioners? Can he make proper referrals to other agencies who can meet some of his parishioners' needs better than himself? Can he consider himself part of a community psychiatry team which is working diligently to meet the mental health needs of his entire community?

The following report concerns a pilot study group method of educating ten clergymen interested in community mental health to better answer each of these questions for themselves.

Existing Educational Programs for Clergymen

Today when a man is ordained as a priest, rabbi, or minister, he has behind him several didactic courses in pastoral psychology. He may have taken a required six or twelve week course in clinical pastoral training in a general hospital or mental hospital connected with the seminary. However, if he is to be at all skilled or proficient in counseling, he will have to acquire most of this skill *after* he is ordained. Becoming involved with parishioners with mental illness, a searching through the voluminous contemporary psychological literature, and perhaps a period of personal psychotherapy; all these things may gradually awaken a clergyman to the fact that he needs to learn a lot more practical psychology in order to minister better to those in need of help in his church or synagogue.

To solve this problem, perhaps he will resign his charge as clergyman and return to seminary to study for an advanced degree in Psychology of Religion or some similar subject. If the advanced degree program is a good one, he will be involved in supervised counseling of clients and undergraduate seminarians, and it will be possible for him to undergo some self-searching and discipline under the tutelage of an experienced psychotherapist.

If a clergyman does not want an advanced degree, he may go to a six or twelve week summer workshop such as those sponsored in Protestant circles by the Council for Clinical Training or the Institute of Pastoral Care. These excellent brief courses, given in many of the better teaching hospitals in the country, will introduce the clergyman to the psychological literature, to his own psychodynamics in an intensive group experience, and to learning to counsel with suffering human beings under experienced supervisors.

However, either of these two courses of action, returning to graduate school or attending a summer workshop are not taken by the average clergyman. He continues to work in his parish, and slowly accumulates his knowledge through reading, the use of his own personal psychotherapy, and by talking to psychologists, social workers or psychiatrists about clients from his parish. Most clergymen with graduate degrees in psychology stay in teaching and do not return to local churches. Those clergymen stimulated by a summer workshop return to their local communities where they find it very difficult to continue, in isolation, the enthusiasm developed in the summer.

This state of affairs leads to the question: How can we better mobilize all interested clergymen in a given local community to meet community mental health needs? How can we develop a community program of psychological training which will not require clergymen to leave their local churches for graduate studies or even for frequent summer courses?

A very important starting answer to these questions has been offered by the Bradley Center, Inc., a local community mental health center in Columbus, Georgia.

The Bradley Center, Inc.[3]

The Bradley Center, Inc. was established in 1955 as a private, nonprofit foundation in Columbus, Georgia. The community is a metropolitan area of more than 200,000 people, typical of the whole southeastern

portion of the United States, which suffers from a severe shortage of psychiatric, psychological and social work personnel.

The workers in the Bradley Center arbitrarily divided their time, 40% for the care of clinic out-patients, and 60% for work with community leaders, and developing research which would help meet the mental health needs of the community.

The original inspiration for the research was a "Well-being Clinic" conducted by the Department of Psychiatry at McGill University.[4] This research represented a study of the effectiveness of an attempt to provide routine mental health check-ups for community groups.

A routine mental health evaluation, as outlined by "The Well-being Clinic," could be given the average individual in much the same manner as a chest x-ray. Operating on this concept, and over a several years period, a mental health assessment kit was devised at the Bradley Center by Shapior and Maholick which could provide rapid screening of mental health problems, provide a base line for brief intensive counseling, and assist in making appropriate referrals if indicated.

Local clergymen and local physicians were trained in the use of this assessment kit. Clergymen were trained in groups of twelve by means of twelve two-hour weekly sessions conducted by a trained psychologist (D. S. Shapiro), and a clergyman trained in the use of the assessment kit. Each clergyman was given five kits to be filled out by five of his parishioners. The training group assisted the clergymen in organizing the test material, assessing the number and severity of problems, planning for goal-directed short term counseling, and in making the appropriate referrals when necessary.

After the three month course was completed, clergymen were encouraged to keep in touch with The Bradley Center, Inc. A certificate of graduation guaranteed the trained clergymen a continual supply of mental health assessment kits. Clergymen now functioned as co-workers in the mental health field with the professionals at The Bradley Center, Inc.

Most important, the clergymen now felt that they were part of a team of workers dedicated to helping every member of the community. They counseled more persons and took a larger share of responsibility than the average clergyman today who, according to a survey by McCann,[5] counsels on the average only two hours per week.

The idea of a community-centered educational program for ministers in the mental health field is the unique contribution of The Bradley Center, Inc. Because of their shortage of staff this program could not be extended. Lines had to be drawn and limits set as to how much professional time could be given these clergy groups. Crucial questions now face us as a result of this study. What would be the effect of a training group of local clergy meeting with trained psychiatrists and psychologists two hours per week throughout the year with no set date of termination for the group? Could a didactic program of selected readings in psychology and the psychology of religion increase the dedication and efficiency of the group? Could group psychotherapy introduced by a trained group therapist assist the clergymen in getting to know themselves better? Could the clergymen be given assistance in organizing depth groups in their church as well as making their own individual assessments by the Bradley kit? Could the clergymen participate more directly in the work of the local State Mental Hospital or local Mental Health Clinic so as to feel more a part of the Community Mental Health Team?

To answer these questions the University of Virginia Mental Health Clinics decided to start a pilot study with a group of local clergymen who were concerned about helping meet the community mental health needs.

The Community of Charlottesville, Virginia

Charlottesville is located in one of the largest counties of Virginia: Albemarle County.

The city itself is located in a wide valley between the Blue Ridge Mountains on the west, and the Rivanna River to the east. The city has an approximate population of 40,000 with Albemarle County adding another 30,000. About 80% of the total population of the county is white and 20% non-white (mostly Negro).

There are 23 Protestant churches in the city and 30 in the county, representing 15 denominations. There are four Roman Catholic Churches, one Greek Orthodox Church and one Jewish Synagogue located in the city.

Social service and welfare aid are provided by 13 community chest supported agencies and other public and private health and family services.

There is a large and active Department of Neurology and Psychiatry at the University of Virginia School of Medicine located in Charlottesville, whose staff includes ten psychiatrists, 17 resident and fellow psychiatrists, five clinical psychologists, and five social workers. This group of trained counselors has an interest in community mental health which it carries into practical programs through the University of Virginia Mental Health Clinics.

In 1956 the Director of the University of Virginia Mental Health Clinics, and the Chaplain of the University Hospital, a clergyman with post-graduate training in Pastoral Psychology, initiated a Workshop for Charlottesville clergymen. This Workshop was an annual affair consisting of 8 or 10 consecutive weekly evening meetings lasting two hours. The Workshop was a rather formalized course based on Carl Rogers' non-directive counseling. Role playing by Workshop participants involved the clergymen more actively than a series of lectures.

This Workshop was quite successful, so that in the spring of 1964 it was decided to expand and develop this program, taking into consideration the important work of the Bradley Center, Inc.

The Psychosynthesis Group

In April 1964 a group of ten clergymen of a variety of denominations interested in mental health and religion, one state hospital psychiatrist, and a psychiatrist representing the Mental Health Clinics, started meeting weekly for two hours. This was the formal beginning of the Psychosynthesis Group. This name was chosen for the group because the individuals decided to subscribe formally to no one school of psychology, but make use of all the schools in their counseling work. The word psychosynthesis was first used by Roberto Assagioli of Florence, Italy, a psychiatrist interested in all the modern psychotherapeutic schools, as well as the psychological techniques of the major world religions, useful in promoting human growth and maturation. There is a Psychosynthesis Research Foundation with headquarters in New York City but members of the Charlottesville group were not required to join this New York group.

Didactic Phase

During the early months of the group while individuals were getting to know one another better, the group studied various writings of psychologists interested in religion and psychotherapy. Authors of the so-called "Third Force in Psychology" were studied. Writings of Maslow,[6] Rogers,[7] Bucke,[8] Murphy,[9] William James,[10] Jung,[11] Progoff,[12] Assagioli,[13] Schultz,[14] Sorokin,[15] Erickson,[16] Kris,[17] May,[18] Perls,[19] Balint,[20] and Moreno,[21] were reviewed. Tape recordings of psychotherapeutic interviews by a variety of different therapists were studied by the group.

Organization of a Local Chapter of the Academy of Religion and Mental Health

Because four members of the group were already members of the nationally organized

Academy of Religion and Mental Health it was decided by the group that we should affiliate ourselves with the National Organization to become better acquainted with others in the county with our interests. We chose officers and planned a local program for 1964-65 with the thought that other clergymen and physicians could be exposed to our thinking once a month in a more formal manner. The first year's activity of the Academy of Religion and Mental Health was quite successful.

Evolution of the Psychosynthesis Group into a Leaderless Therapy Group

The phase of initial defensiveness and growing-to-know-one-another was passed through in about ten months. The group now became a typical leaderless therapy group. Problems of the individuals were brought to the group for solution, and a sense of intimacy was established. Two out-of-town psychotherapists, one a psychiatrist and the other a psychologist, were invited to Charlottesville, the former for two days, and the latter for ten days, to act as group leaders. Both therapists were students of a variety of different psychotherapy schools and interested in the interrelationships of psychology and religion. They led the group in both didactic informal teaching and demonstration of a variety of "Third Force" psychotherapy techniques.

To facilitate group intimacy, two 24-hour mountain retreats were held by the group, one in December 1964 and the second in February 1965.

After one year of meeting weekly, it could be definitely established that a leaderless psychotherapy group had been formed possessing vigor and enthusiasm which was very important, emotionally, to each of its members.

The Establishment of Depth Counseling Groups in Local Churches

A professor of pastoral theology from a West Coast theological seminary joined the group in the fall of 1964. He became a member of the Psychosynthesis Group and became good friends with each of its members. He stayed with the group eight months while he was on sabbatical leave from his seminary.

This fortunate fact facilitated his instruction of a number of the group members who were clergymen. He taught them how to lead Bible Study Groups in Depth. This type of group can be conducted in local churches and can eventually become a counseling opportunity.

This important member of our group visited local churches, led groups, counseled several ministers individually, and was instrumental in starting a Depth Group for four rural ministers individually. He was instrumental in starting a Depth Group for four rural ministers and their wives.

Instructions in the Use of the Mental Health Assessment Kit

After the group had become a therapy group for three or four months it decided to learn how to use the Mental Health Assessment Kit as devised by the Bradley Center, Inc. One of the members, a psychiatrist, had visited Columbus, Georgia, in the summer of 1964 and had received instruction in the use of the kit. Instruction proceeded over a three month period, as advised by Maholich and Shapiro. The one variation in teaching technique was that each member of the group agreed to present a complete kit filled out by himself to the entire therapy group. The group, having achieved intimacy, was easily able to accommodate this change with an even further deeping of intimacy.

Volunteer Activity in On-Going Community Psychiatric Agencies

Four members of the group (clergymen) who expressed interest in learning how to conduct therapeutic groups were offered the opportunity to work as co-therapists with trained professional workers. They led

weekly two-hour group therapy sessions at the local State Mental Hospital. These clergymen were included in the hospital staff meetings where the progress in treatment of a variety of patients was discussed.

Five members of the group were involved in a pilot research project at the University of Virginia Mental Health Clinic which involved individual and group counseling of a group of six undergraduate University students.

Evaluation

No formal measurements have been made to date concerning how effective this pilot group has been in working towards the goal of helping group members better meet community mental health needs. All members are very enthusiastic in testifying that the group means a great deal to each of them personally. All the clergymen are doing more counseling and referring many parishioners to the Mental Health Clinic. Most of them (clergymen) have started Depth Groups in their churches. Most of the clergymen have preached more sermons on psychology and one has written a book on psychology and theology.

The larger part of the group split into pairs, which would meet regularly between the weekly meetings of the entire group. This allowed for a more complete self reevaluation of both partners—and would allow for a complete working through of a dream with a full analysis completing the dream work.

Summary

Mental Health educators agree that clergymen under supervision of trained professionals are very important as a manpower supply in improving local community mental health programs. Taking advantage of a successful yearly (since 1956) didactic workshop on counseling conducted by the University of Virginia Mental Health Clinics in conjunction with the University of Virginia Hospital Chaplain, the Mental Health Clinics decided to expand this program. This was decided upon after consideration of the current deficiencies in postgraduate education in psychology for local ministers and after studying an important breakthrough in community psychiatry for ministers by the Bradley Center, Inc. of Columbus, Georgia.

This group consisted of two psychiatrists and ten clergymen, meeting two hours weekly. The group was initially didactic in focus, studying authors representing the "Third Force" in Psychology. In the initial months of the group it was instrumental in founding a local chapter of the Academy of Religion and Mental Health, a national organization.

After ten months of meeting together the group evolved into a leaderless therapy group, important to each of the members. Outside therapists were invited to help lead the group.

A Professor of Pastoral Theology helped individual clergymen to start Bible Study Groups in Depth in their respective churches.

The Mental Health Assessment Kit as devised by the Bradley Center, Inc. was taught using the teaching method of Shapiro and Maholich.

Clergymen members of the group were invited to become members of treatment and research teams in the local State Mental Hospital and the local University Mental Health Clinics.

The limited size of Charlottesville-Albemarle County (70,000) with 57 churches, each with its respective clergyman, makes it possible to speculate that in the future a total therapeutic community stressing mental health and involving all citizens could be developed with clergymen in the leadership position.

Bibliography

1. Final Report of the Joint Commission on Mental Illness and Health, Action for Mental Health. Basic Books, New York, 1961.
2. Gurin, G., Veroff, J., and Feld, Sheila: Ameri-

cans View Their Mental Health. Basic Books, New York, 1960.
3. Shapiro, D. S., Maholich, L. T.: Opening Doors for Troubled People. C. C. Thomas, Springfield, Illinois, 1963.
4. MacLeod, A. W., Silverman, B., Poland, P.: The Well-being Clinic. Am. J. Psychiat. 113: No. 9:795-800.
5. McCann, Richard: Personal Communication.
6. Maslow, A. H.: Toward a Psychology of Being. Insight by Van Nostrand, Princeton, N. J., 1962.
7. Rogers, C.: On Becoming a Person. Houghton Mifflin, Boston, Mass., 1961.
8. Bucke, R.: Cosmic Consciousness. Dutton, New York, 1923.
9. Murphy, G.: Human Potentialities. Basic Books, New York, 1958.
10. James, William: Varieties of Religious Experience. Longmans, Green, and Co., London, 1902.
11. Jung, Carl: Memories, Dreams, Reflections, Routledge and Kegan Paul, Ltd., London, 1963.
12. Progoff, Ira: The Symbolic and the Real. Julian Press, New York, 1963.
13. Assagioli, Roberto: Psychosynthesis, Hobbs, Dorman and Co., Ind., New York, 1965.
14. Schultz, J. H., and Luthe, W.: Autogenic Training. Grune and Stratton, New York, 1959.
15. Sorokin, P. A. (ed): Explorations in Altruistic Love and Behavior. Beacon, Boston, Mass., 1950.
16. Erickson, E. H.: Young Man Luther. Norton, New York, 1956.
17. Kris, E.: Psychoanalytic Explorations in Art. Int. Univ. Press, 1952.
18. May, R. et al (eds.): Existence. Basic Books, New York, 1958.
19. Perls, F., Hefferline, R. F., Goodman, P.: Gestalt Therapy. The Julian Press, Inc., New York, 1951.
20. Balint, Michael: Primary Love and Psychoanalytic Technique. Liveright Publishing Corp., New York, 1953.
21. Moreno, J. L.: Who Shall Survive? Beacon House, Inc., Beacon, New York, 1953.

University of Virginia Hospital
Charlottesville, Virginia

A Natural Tranquilizer

Wine's use as a "safe long-acting natural tranquilizer" instead of drugs that are "artificial tranquilizers" is advocated by a distinguished University of California physician in an article published in the January issue of the Illinois Medical Journal.

Dr. Salvatore P. Lucia, professor of medicine at the University of California School of Medicine, San Francisco, writes that wine "is of far more value as a therapeutic adjuvant in promoting relaxation than is a hastily swallowed capsule." Wine, he points out, has been used for more than 40 centuries as a safe tranquilizer and there is no reason it should not be used for this even today. Modern research has confirmed the ages-old values of wine, he says. In his view, wine is a "natural tranquilizer" while tranquilizing drugs are "artificial tranquilizers."

One leading possibility for use of wine as a tranquilizer is in the elderly, says Dr. Lucia. It can help them "cope with these tensions and live out a long span in peace and gratitude." One serving before, or two servings with, a meal provide the desired tranquilization.

"In the rush of rapid pharmaceutical progress, the ages-old established, inexpensive, and safe medicine called wine is apt to be forgotten. So, too, in a post-Prohibition society, these ancient dietary beverages are still apt to be regarded over-emotionally and pseudo-moralistically by the physician. Yet, the long history of the use of wine in medical practice and the modern scientific research confirming its values are gaining the attention of increasing numbers of physicians."

Clinicopathological Conference . . . .

Cerebral Deterioration Following Surgery for Meningioma

Prepared and Edited by

JOHN H. MOON, M.D.
PAGE HUDSON, M.D.
Medical College of Virginia

DISCUSSANTS:

Laurie E. Rennie, M.D., Associate Professor, Department of Neurology, Medical College of Virginia

Gerald A. Gildersleeve, M.D., Assistant Professor, Department of Radiology, Medical College of Virginia

Julio H. Garcia, M.D., Assistant Professor, Neuropathology Laboratory, Department of Pathology, Medical College of Virginia

Clinical History

The patient was a 54 year old white female who was transferred from Eastern State Hospital to the Medical College of Virginia Hospitals on 5/30/64 because she had been found in an unresponsive state on the morning of her admission.

She had been admitted to Eastern State Hospital in February, 1964, because of depression and confusion. Her psychiatric problems dated back to 1957 when a gradual but marked change in her personality occurred. In 1959 she had begun having seizures which were preceded by an olfactory aura. Her mouth would twitch and this was followed by involuntary movements of her right arm and loss of consciousness. She would fall and, on awakening, have no memory of the event and no loss of sphincter control but would have bitten her lips. She had 1-2 such seizures per year. They were controlled with Dilantin and phenobarbital. In April, 1964, she developed a left hemiparesis with complete paralysis of her left arm, slight left facial weakness and loss of pain and asterognosis on the right. She was referred to the Medical College of Virginia and was discovered to have a parasagittal meningioma, which was resected. Because of the anatomical location, partial resection of the falx and the sagittal sinus was also done. She tolerated the procedure well and showed improvement on her objective neurological findings after surgery although she still had some weakness on the left side. She developed an acute paranoia postoperatively and was discharged to Eastern State Hospital. Her anticonvulsant therapy was continued.

She remained mentally disturbed, loud and abusive despite medication. She had several falls after her return to Eastern State Hospital with minor head injuries as a result but no general change in her physical condition was noted until the morning of her admission.

Physical examination: BP 140/84, T. 99, P. 80, R. 20. She was a well developed, well nourished, middle aged woman lying quietly in bed who talked with slurred speech but was able to move her right arm, right leg, and left leg. She had only slight movement in her left arm. Examination of the head, eyes, ears, nose and throat were normal. Fundiscopic examination was within normal limits. The lungs were clear to percussion and auscultation. Examinations of the heart and abdomen were within normal limits. Neurological examination revealed the patient to be oriented as to person but not to time and she was partially disoriented as to place. Her memory was fair. She was unable to carry out simple commands and was quiet lethargic. There was a left hemiparesis with more weakness on the left arm than in the left leg. There was a partial sensory defect on the left. Cerebellar function was not tested.

Laboratory data: Hemoglobin 13.4

gm.%, WBC 8,100/mm^3. The urine was yellow, clear and acid, had a specific gravity of 1.002 and was negative for albumin, sugar and acetone. Microscopic examination of the urine was essentially negative. Serum sodium was 147 mEq/1, potassium 5 mEq/1, cholorides 102 mEq/1 and the bicarbonate content 24. A lumbar puncture was performed on 6/19/64 with normal dynamics. Cerebrospinal fluid sugar was 67 mg.%, proteins 70 mg.%; there was a red cell count of 18, no WBC. Cerebrospinal fluid culture was negative.

Skull films showed a surgical defect in the right parietal area but were otherwise normal. A right carotid arteriogram was performed which showed adequate visualization of the internal cerebral vessels on the right. No tumor stains were identified. A pneumoencephalogram showed atrophy on the right with what was thought to be a compensatory shift of the ventricular system. An electroencephalogram showed focal slowing of mild degree in the right parietal occipital regions suggesting some mild acute lesion in this area. In addition there were large generalized slow waves which could be the result of postictal state, or to an increased intracranial pressure.

The patient's vital signs remained normal. She continued to be lethargic and showed some confusion although she was not actively belligerent. It was felt that her lethargy and confusion were the result of postictal state and the medications required to control her convulsions. In the absence of any further specific findings she was discharged to Eastern State Hospital. She worked intermittently until September 10, 1965, when she became comatose. Her condition deteriorated gradually and she died without regaining consciousness 12 days later.

Clinical Discussion

Dr. Laurie E. Rennie: This was a frustrating case to me since I saw this patient on her first hospitalization and was familiar with part of her problem but I had no follow-up on her.

She was noted to have developed a change in her personality as the first evidence of a disease process. What clinical signs lead us to a diagnosis of an organic psychosis rather than a functional one? In general, a lack of fastidiousness and loss of concern for social proprieties are signs associated with organic mental syndromes. Large, frontal, mass lesions are especially prone to produce such effects. Our patient not only had some changes in personality but she also developed focal seizures. Focal seizures almost universally represent a cortical discharge rather than a lesion deep into the brain itself and for that reason we must assume that her problem involved the surface of the brain. The fact that the patient lost consciousness indicates this was not simply a hysterical manifestation or some unusual involuntary movement associated with a psychotic state. The patient had amnesia as do most people who have seizures. Many of them have retrograde and antigrade amnesia, for a period of several hours. Their confusion is often inapparent to those about them.

She continued to function on a limited level, performing some nursing duties but not as a registered nurse. She was admitted in April, 1964, because of left hemiparesis. This is a bit unusual in that the patient's involuntary movements were on the right side which would suggest a left cortical lesion, but her hemiparesis is on the opposite side. She showed a loss of pain and had asterognosis on the right. One possible examination of this paradox would be that a pedunculated lesion or a lesion from the midline, perhaps the middle parasagittal area, might extend down to the area of the arm and in this way cross the precentral area somewhat lower, resulting in involvement of the arm rather than the leg on the right. Asterognosis and loss of pain on the right might represent bilateral lesions extending posteriorly towards the posterior third of the falx in the parasagittal region.

Dr. Cary Suter saw this patient at the mental institution and had her sent here with the diagnosis of parasagittal meningioma.

May we see the x-rays made during that hospitalization?

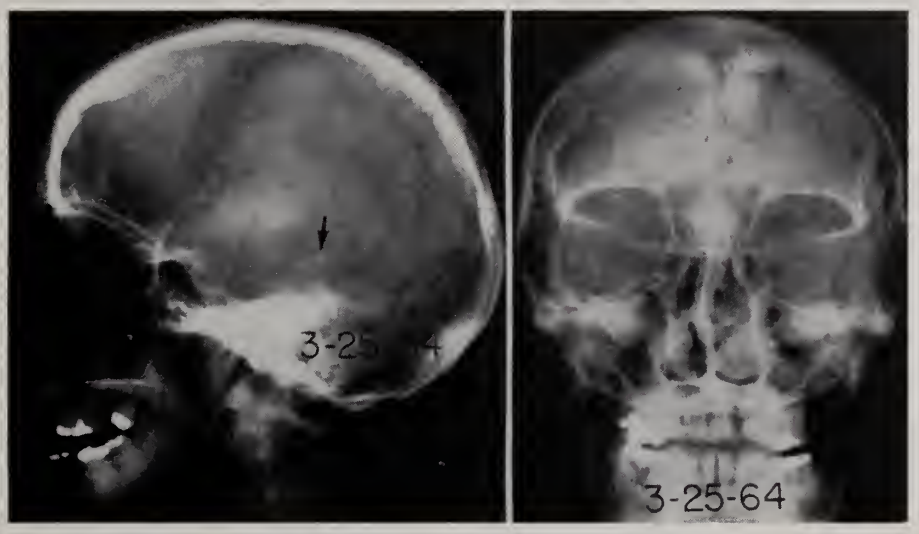


Fig. 1. Abnormalities shown include displacement of the pineal (arrow), abnormal vascular channels in the vault, and frontal hyperostosis.

Dr. Gerald A. Gildersleeve: X-rays of the skull done on 3/25/64 (fig. 1) shows downward displacement of the pineal calcium and abnormal vascular channels in the bones of the vault. Diploic venous channel development is marked in the posterior portions of the vault especially on the right side. In addition, there is hyperostosis bilaterally of the inner table of the frontal bone particularly on the left. The hyperostosis may be only an incidental finding or possibly related to the abnormalities described. The right sided cerebral angiogram (fig. 2) was done via retrobrachial injection of contrast material and resulted in filling of the external carotid branches and vertebral vessel as well as the basilar artery and anterior, middle and posterior cerebral vessels. A large midline posterior parietal tu-

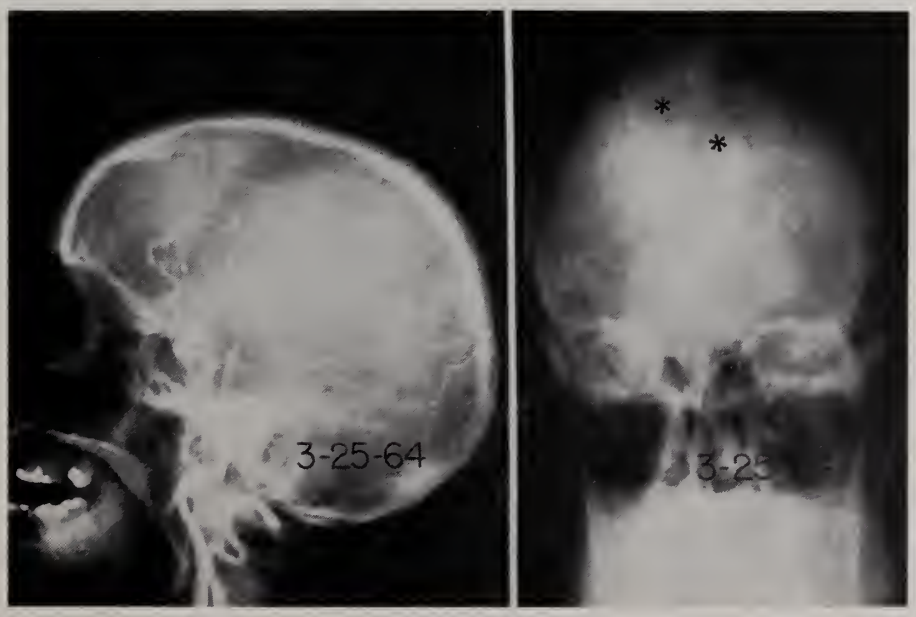


Fig. 2. In this right sided arteriogram, a large midline parietal tumor mass was suggested. In the capillary phase of the arteriogram (right), the relatively hypovascular mass (asterisks) is seen displacing brain away from the falx.

mor mass is identified receiving its blood supply from branches of the anterior cerebral artery, enlarged branches of the middle meningeal artery, and from large scalp arteries which perforate the vault. In the "capillary" phase of the study, in which the brain is fairly uniformly dense with contrast material, the relatively hypovasular mass is seen displacing brain away from the area of the falx cerebrum. The left sided angiogram of 3/28/64 in arterial phase demonstrated a similar arterial supply to the large midline tumor. The venous phase of this study illustrated occlusion of a portion of the sagittal sinus anteriorly and downward displacement and lateral displacement of the internal cerebral vein.

The findings are those of a large, falx meningioma, bulkier on the right, with multiple bilateral vascular supplies. The hyperostosis of the inner table of the frontal bone and the obliteration of an anterior portion of the sagittal sinus suggest extension of the tumor on the falx.

Dr. Rennie: We have bilateral signs and the arteriogram reveals bilateral lesions or a lesion spreading from side to side and involving the sagittal sinus at the junction of its anterior and middle thirds.

What did you see at surgery, Dr. Collins?

Dr. William F. Collins, Jr.: Dr. William Peach and I found a large tumor with characteristics as described by Dr. Gildersleeve. We freed it from its attachment to the hemisphere and lifted it out of its bed. It was attached to the falx which we opened and found the tumor extending on the other side. This was freed from its attachment to the sinus. On opening the sinus to get to the junction of the sinus and to free the falx for resection, the sinus was found to be plugged. When the tumor was pulled from the sinus, we had considerable blood loss. This was checked temporarily by clamps, the sinus was again sutured and the area resected. The approach was from the right side going across the midline. In general, the bed of the tumor could be seen arising from the falx, joining the angle of the falx and the sinus and extending up into the dura on the surface and through the falx on the other side. It was a relatively large tumor but we thought we removed it completely.

Dr. Rennie: A resume of the events to date might be stated as follows: first, a history was obtained of her seizures and her dementia, the patient was examined and had the focal signs as outlined. It was fairly well ascertained that this was an organic disease and she had simple tests done such as skull x-rays which revealed certain things. The EEG was of some value. It showed bilateral slowing which was maximal frontal to central to parietal to occipital, left versus right, equally affected. This indicated that there was increased intracranial pressure with bilateral slowing. It showed certain changes characteristic of tumor, in that the background of the record is relatively normal and the delta waves come out in small groups and then disappear again, as opposed to the pattern seen in "vascular accidents" which usually shows more consistent delta waves. I am not saying that we can differentiate between vascular lesions and tumor and the basis of an EEG but at the same time we do get a hint that this was a tumor and this was a relatively good localization for the tumor as found. A brain scan, using radioactive mercury, gave good localization on the first admission but was unsatisfactory on the later admission.

Dr. Garcia: What other types of problems might have been suggested by the protocol before it became quite obvious that this patient had a meningioma?

Dr. Rennie: It might have been a parasagittal glioma. These do occur in the frontal area and are sometimes highly malignant. This area is occasionally involved by arteriovenous malformations, sometimes by

William F. Collins, Jr., M.D., *Professor and* Chairman, Division of Neurosurgery, Medical College of Virginia.

an abscess, and, rarely, by subdural hematoma. Had we not found radiological evidence of tumor we might have considered Alzheimer's disease or similar degenerative disorders. The olfactory aura, involuntary focal seizures and generalized right and left seizures, however, point strongly to the diagnosis of meningioma.

After surgery there was hope that her mental illness was cured but it soon became apparent that the psychosis still existed even though the tumor was gone. She was discharged to a mental hospital and was continued on anticonvulsant therapy. After several falls she was readmitted to MCV and noted to have slurred speech and was unable to move her left arm. The fact that the fundiscopic examination was within normal limits would make one feel that there was probably no increase in intracranial pressure, no chronic subdural hematoma. Lumbar puncture bore this out although the protein was 70 mg.%. She remained disoriented as to time and place, had some difficulty with memory, and was unable to carry out simple commands. The laboratory work did not impress me a great deal except for the elevated spinal fluid protein and the normal spinal fluid sugar. The latter finding would exclude a chronic infection subsequent to brain surgery. The postoperative arteriogram showed adequate visualization of the internal cerebral vessels on the right. Do we have those films?

Dr. Gildersleeve: Postoperative right sided cerebral angiogram done through the common carotid artery on 6/3/64 showed considerable reduction of the previously displaced intracranial vessels and no tumor vessels. The filling of right middle cerebral vessels had improved and the degree of downward displacement was much less. Midline veins were normal in position. The study, therefore, showed considerable return of vessels towards normal position, and illustrates no tumor.

Pneumoencephalogram of 6/22/64 (fig. 3) demonstrated enlargement of the right lateral ventricle and slight shift of the lateral ventricle to the right, the side of the enlarged chamber. This combination of ventricular changes indicates right side atrophy with shift towards the side of loss of brain substance. No evidence of a space occupying lesion is suggested at this time.

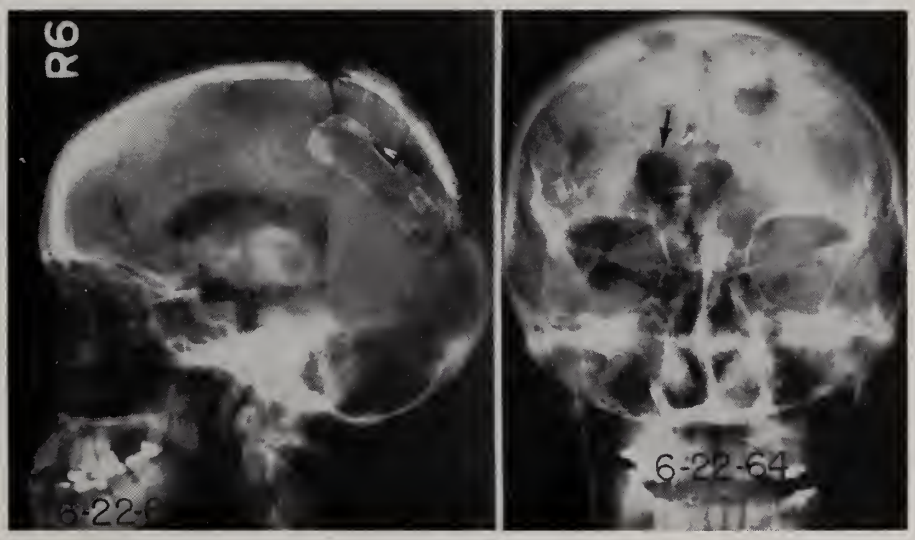


Fig. 3. The pneumoencephalogram following surgery illustrates enlargement of the right lateral ventricle (arrow) and slight shift of the lateral ventricle to the right, the site of the enlarged chamber. This combination indicates right side atrophy with a shift toward the side of loss of brain substance.

Dr. Rennie: It was felt that the confusion and lethargy were attributed to a combination of her recent seizures and to the

medication effect. She was referred back to the mental hospital where she worked intermittently until September 10th at which time she became comatose. This is rather vague; we could discuss at length the reasons why people become comatose. Instead, let's think in terms of meningioma and what meningioma means to you as a physician. Meningioma may, on simple skull x-rays, show up by hyperostosis, increased channels of vascularity or by calcification within the tumor. Eighty percent of meningiomas may be localized in one of four sites. Those over the falx are most common, representing a third to a half of the total; the convexity, the sphenoid region, and the posterior fossa account for most of the remainder. Ten percent are over the tuberculum or around the olfactory groove. Approximately 2% of meningiomas are multiple and this is where I begin to think in terms of what we may have missed that may account for the continuation of her disease. A change from a relatively benign tumor to a more malignant or sarcomatous form might have occurred. From some nubbin left at surgery there may have been a recurrence of the original growth but, by all available tests excepting an unsuccessful brain scan, we have no evidence that another mass was present. Other tumors occur in association with meningiomas. Gliomas, in particular, have been noted in conjunction with meningioma and may be multiple.

The question is raised of multiple meningiomas. Even if we assume that there were two tumors which were either in the falx or parasagittal area, we can exclude involvement of the convexity of the brain on the basis of the negative x-ray studies. The posterior fossa is not well seen on those films nor was there any clinical evidence that a meningioma might be situated about the base of the brain. A pneumoencephalogram, done from below rather than from above, might have helped reveal any abnormality in the posterior fossa which could not be detected on the usual studies including the first arteriogram.

The sagittal sinus on the patient had been entered, traumatized and reduced in size. It is possible that this patient became more and more obtunded secondary to cerebral atrophy that we sometimes see following neurosurgical procedures. Did she become more and more dehydrated and finally thrombose the sagittal sinus? Do we have any evidence that an aneurysm might have been present which ruptured or was there simply primary subarachnoid bleeding in a cerebral hemisphere? It is stated that she became comatose, deteriorated, and died without really regaining consciousness. This woman was given to considerable activity which was not well directed at times. It may well be that she struck her head and that she became comatose as a result of a chronic subdural hematoma.

An infectious process is unlikely for the reasons given. I doubt that this patient had Pick's disease, but it is a possibility because of progressive dementia, anorexia, cachexia and death. The only suggestive features in the history are the lethargy and confusion. If the original tumor had not been found, one of the degenerative cerebral disorders would have been a reasonable diagnosis on this patient in whom there was a prolonged illness ending with death, the meningioma would then have been an incidental autopsy finding. I prefer to think that the meningioma was basically responsible for this patient's death and would suggest an associated neoplasm such as another meningioma, thrombosis of the sagittal sinus, or possibly even an infectious process remain as possible causes of the patient's clinical course.

Ward Diagnosis:

Cerebral atrophy
? Thrombosis of the sagittal sinus
? Subdural hematoma
History of resection of meningioma

Dr. Laurie E. Rennie's Diagnosis:

Recurrent or second primary meningioma
Thrombosis of the sagittal sinus
? Intracranial abscess

Pathological Discussion

Dr. Julio H. Garcia: The postmortem examination was performed at another hospital; unfortunately, it was limited to the examination of the head. When the brain was examined, a rather large, firm mass was found lying on the surface of the right parietal area. As a result, it indented and partly destroyed the superior parietal lobule and the right precuneus. A second similar mass (fig. 4) was found pressing on the medial surface of the occipital lobe of the opposite hemisphere, as well as causing extensive damage to the splenium of the corpus callosum and the gyrus fornicatus (bilaterally). Each of these tumors measured 6 cm. in maximum diameter; they weighed 135 gm. together. They were well encapsulated and were not in continuity with each other. They were firm, homogeneous, non-hemorrhagic and non-necrotic masses. They had microscopic structure identical to that of the tumor removed some months before. Some of the cells that made up this neoplasm had syncytial arrangement, others had a fusiform shape (fig. 5). There was no specific pattern or arrange-

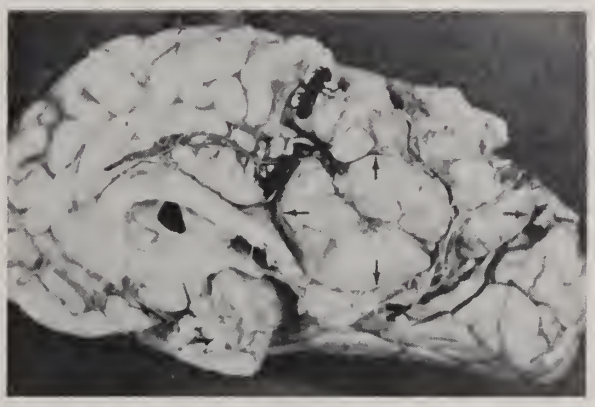


Fig. 4. This sagittal view of the medial aspect of the right cerebral hemisphere shows a large, lobulated meningioma pressing (arrows) on the splenium of the corpus callosum and on the precuneus. A second, smaller (3 cm.) meningioma (not shown) was depressing the ventral surface of the left occipital lobe.

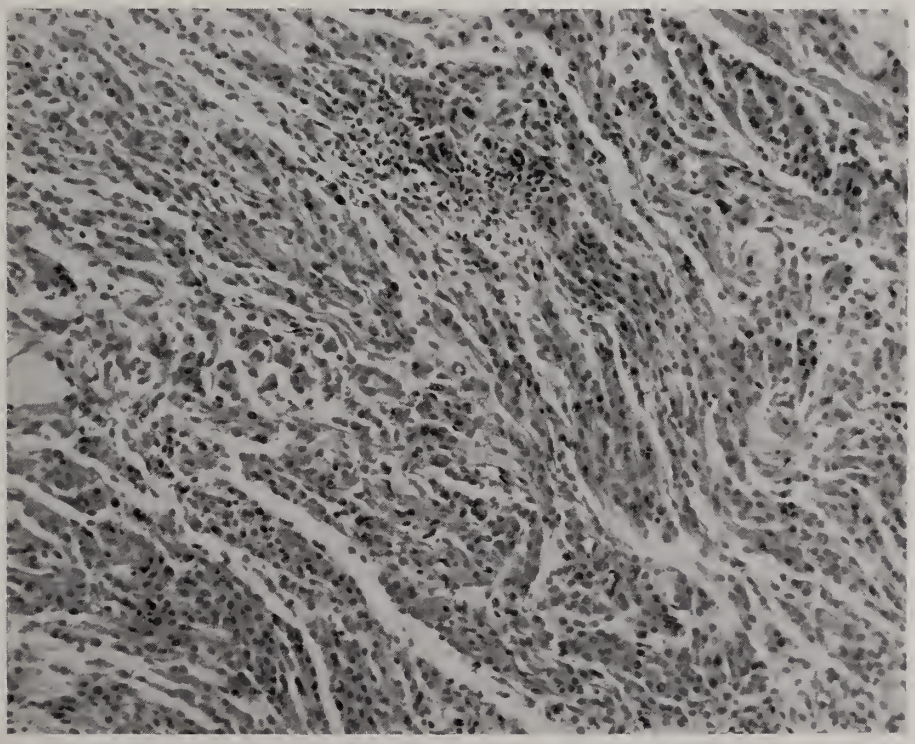


Fig. 5. The meningiomata all had the microscopic structure illustrated above: whorled, fusiform cells with moderately large, hyperchromatic nuclei. No psammoma bodies were present. (from Masson trichrome stain; magn. 100 X)

ment of the cells. The nuclei were hypochromatic and large and showed no unusual mitotic division or lack of differentiation. With the aid of various tissue staining procedures, one could observe that, although the stroma was scanty, there was definite evidence that most of these cells produced thin fibers that stain as one would anticipate collagen fibers to do. The histological diagnosis was, at this point, meningiomata of the parietal area.

The name meningioma is used here with the same connotation as Cushing[1] did in 1938, to denote generally, benign, or at least non-metastasizing, neoplasms that originate from the pachymeninges (usually) and which supposedly arise from the "cap cells" of the arachnoid granulations. Although some controversy still remains as to the exact embryological nature of these cells, most authors accept the idea of the mesodermic origin. A recently published electron microscopic examination of these cells,[2] tends to show that they are multi-potential in the sense that they can undergo differentiation towards mesodermic epithelial elements or both, when they become neoplastic.

The presence of two meningiomata in a patient previously operated for another meningioma some months before, brings up the question of regrowth, versus the possibility of multiple meningiomata being present from the time of the first operation.

The first possibility has been touched upon by Simpson[3] in a review of 332 cases of meningiomata. In his review, the incidence of recurrence was about 9% when the extent of surgical removal included the entirety of the mass, together with adjacent dura, venous sinuses and fragments of bone. In cases in which the surgical procedure was limited to partial removal of the mass, the number of patients having reappearance of symptoms after the operation was one out of every five, or 20%.

It must be stressed that these recurrences became manifest after an average period of 5 years, whereas, in our patient, recurrence (as defined clinically), occurred almost immediately following operation and, therefore, I judge that our patient had more than one mass at the time of the intervention.

Mufson and Davidoff[4] stated that the meningioma is rarely seen as multiple growths unless one includes those cases of neurofibromatosis, in which the dura is often studded with innumerable small meningiomata.

In a series of 295 patients with intracranial meningiomas operated upon by Cushing,[1] only three showed multiple growths. From this point of view one could say that multiple meningiomata occur in approximately 1% of the cases, and this seems to be in agreement with the experience of others.

Coming back to the point of the areas of the brain that are directly damaged by the two large neoplasms, an attempt has been made to correlate the topography of the areas compressed by the neoplasms and the occurrence of behavioral disturbances, olfactory hallucinations, motor and sensory disabilities and seizures in this patient. As it is readily appreciated, the areas involved form an important part of the limbic system.

The *limbic system* is defined as that part of the hemisphere that delimits the edge of the diencephalon, and hence the name. Although initially it was thought that its main function was primarily related to the ability to smell, subsequent anthropological and experimental evidence was shown, in the opinion of Papez,[5] that the area in question is also highly epileptogenic and furthermore, that it forms an important component in the performance of the mechanism of reaction, known as *emotions*.

MacLean[6,7] made one of the better schemes to elucidate the physiology of the system. He suggested the stimuli reach the hippocampus and then are expressed somatically or viscerally through the hypothalmus. The different parts of the vegetative life were given in his "visceral brain" (or limbic system), a localization which is

only partly tempered by the influence of the frontal lobes.

In conclusion, the patient had large meningiomata of the parasagittal area with destruction of an important part of the limbic system, in particular: cingulate gyrus, hippocampal gyrus and precuneus. The direct cause of death is uncertain, but one could reasonably surmise that this patient, who was in coma, probably succumbed to respiratory infection.

Dr. John H. Moon: Is the hyperostosis frontalis that Dr. Rennie stressed as being a portion of the meningioma picture in some way connected with the neoplasia in the arachnoid villa?

Dr. Garcia: The current concept is that the vasculature of the overlying bones, whether frontal or parietal bone, is affected by this growth of the tumor. At least 65% of the meningiomas in this location are accompanied by hyperostosis. Also as Dr. Rennie has mentioned, hyperostosis can occur independently of any recognized lesion.

Dr. Louis Conway: I am still rather concerned about the patient's death. The only areas involved don't strike me as vital areas. Clearly the studies showed that this lady has a lot of space in her head to grow meningiomas, in that the site of the brain where her major mass was removed was apparently the site to which the brain was shifting. Were there any pathological changes in any areas that we associate as being vital in this brain?

Dr. Garcia: Since we did not have the benefit of a complete postmortem examination the only thing that I can do is make certain assumptions as to the ultimate cause of death, as I have said before. However, there were several areas in the diencephalon that were subject to direct pressure by this mass that could account for her episodes of loss of consciousness. There was ischemic damage in segments of the midbrain for instance. I think that this could also have accounted for some of the episodes of sudden loss of consciousness that she was experiencing continuously.

Final Diagnosis:

Intracranial meningiomata[3].

John H. Moon, M.D., *Assistant Professor, Department of Medicine, Medical College of Virginia.*

Louis W. Conway, M.D., *Assistant Professor, Department of Neurosurgery, Medical College of Virginia.*

References

1. Cushing, H. and Eisenhardt, L.: Meningiomas. Their Classification, Regional Behavior, Life History and Surgical End Results. pp. 785, Charles C. Thomas Co., Springfield, Ill., 1938.
2. Napolitano, L., Kyle, R., and Fisher, E. R.: Ultrastructure of Meningiomas and the Derivation and Nature of Their Cellular Components. Cancer 17:230-241, 1963.
3. Simpson, D.: The Recurrence of Intracranial Meningiomas after Surgical Treatment. J. Neurol., Neurosurg., and Psychiat. 20:22, 1957.
4. Mufson, J. A. and Davidoff, L. M.: Multiple Meningiomas. Report of Two Cases. J. Neurosurg. 1:45, 1944.
5. Papez, J. W.: A Proposed Mechanism of Emotion. Arch. Neurol. and Psychiat. 38:725, 1937.
6. MacLean, P. D.: Psychomatic Disease and the "Visceral Brain" Psychom. Med. 11:338, 1949.
7. MacLean, P. D.: Contrasting Functions of Limbic and Neocortical Systems of the Brain and Their Relevance to Psychophysiological Aspects of Medicine. Am. J. Med. 25:611, 1958.

Current Concepts in the Serological Diagnosis of Syphilis

Since the first serological tests for syphilis were devised, two factors have plagued the laboratory with regard to these tests. The first was having a test effective in detecting all individuals infected with this disease (sensitivity of test) and the second factor was excluding from the above group normal individuals or those who had unrelated diseases (specificity of test).

The sensitivity of these tests was mainly a technical one and the numerous slide and tube tests, as well as complement-fixation tests, tend to reflect efforts at solving this problem. The problem of specificity was another matter. As the antigen in early use was not specific to Treponema pallidum, false positive reactions occurred in a number of normal individuals and individuals with a variety of diseases other than syphilis. Aside from stigmatizing patients, as a result of having biological false positives, with all of the social implications of the disease syphilis, oftentimes they were submitted to long and painful courses of therapy.

The Treponema Pallidum Immobolization Test of Nelson and Mayer first introduced in 1949 created a new interest in specific antigens of the Treponema. This test utilizing living Treponema pallidum (Nichols rabbit strain) greatly increased the specificity of syphilis serology. Due to the need for living Treponema requiring the maintenance of infected rabbits, the test was cumbersome and expensive. Very few laboratories offered this service in the United States and $50.00 per test appeared to be a reasonable charge. The sensitivity of this test was less than that of the nontreponemal tests and therefore about two-thirds of the cases of early syphilis were nonreactive by this test.

In other approaches by numerous investigators, strains of nonpathogenic Treponema pallidum were investigated as possible antigen sources as well as other nonpathogenic species such as microdentium and zuelzerae. The Reiter strain of Treponema pallidum showed some promise and preparations made from this relatively easily grown strain were used in complement-fixation tests. This test is cheap, easy to perform, and has a satisfactory degree of sensitivity and specificity.

In the past few years a test using the Nichols strain of Treponema pallidum and fluorescein-tagged antibody has been described. This test using dead Treponema that can be stored was relatively simple to perform. The sensitivity of the original test, the FTA 1-5, gave 100% positive reactors in primary syphilis as well as in patients with latent syphilis. The specificity was very poor with 20-30% of normal individuals reacting, and in the biological false positive group over 30% still reacted.

Dissatisfaction with the above led to the FTA 200. The sensitivity of the test was only 37% for the cases of primary syphilis, a figure very compatible with the findings using the TPI. Biological false positives were eliminated by this test. The findings in latent syphilis were disappointing for only 20% of these were reactive as opposed to 91% reactive with the TPI.

In 1964, a new variation of the FTA was reported. This test involved an absorption procedure using Sonicated Reiter Treponemas as the absorbent. The FTA-ABS as this test was called has become the specific test of choice. The sensitivity is high, being

reactive in 81% of primary syphilis as against 37% for the TPI; in latent syphilis it has been reactive in 100% of some series against 91% for the TPI. The specificity is as good as the TPI for normal and biological false positive individuals.

This test has proved so useful that it has already replaced the complement-fixation test in the official evaluation studies.

M. J. Allison, Ph.D.
H. P. Dalton, Ph.D.

Division of Clinical Pathology
Medical College of Virginia
Richmond, Virginia

Scientific Data Lacking on Cancer "Vaccine"

Two Cleveland medical leaders say in the January 30th Journal of the American Medical Association that administration of a so-called cancer "vaccine" to humans is completely unwarranted until scientific tests prove the safety and effectiveness of the product. So far, there are no scientific data to justify experimentation on humans with a "vaccine" developed by the Rand Corporation of Cleveland, say Austin S. Weisberger, M.D., president of the Cleveland Academy of Medicine, and David Fishman, M.D., chairman of the Department of Medicine of Western Reserve University.

Their report is in answer to a question by a Barron, Wis., physician regarding the usefulness of the product, one of several similar ones received by the Journal in recent months. An editor's note after the answer announces that directors of the Cleveland Academy of Medicine have declared it unethical for any Academy member to use the Rand vaccine for new patients. This policy, effective January 10, 1967, will stand "until investigative and research data are available warranting such human experimentation."

Publicity about the so-called vaccine a few months ago caused the Cleveland Academy of Medicine to invite officials of the Rand Corporation to "provide . . . more factual information."

Said Drs. Weisberger and Fishman: "The following points were elicited: (1) There have been no experiments with animal tumors to test the efficacy of the 'vaccine.' There have been no presentations at scientific assemblies, no publications, and no critical review or evaluation of data.

"In fact, it has not even been established that the Rand Corporation has, at this time, essential data establishing the specificity of the tumor antigens being employed, the production of specific antibodies against the tumor antigens, and the lack of cross-reaction with normal tissue antigens.

"(2) Experiments for toxic or other side effects have been performed on one horse, 12 rabbits, and 40 mice for a 'minimum of three injections.'

"(3) The human experiments being performed cannot be expected to demonstrate the efficacy of the 'vaccine.' No controls or double-blind (statistical) studies are being employed. The material is being released to any licensed physician and osteopath requesting supplies of the 'vaccine' in accordance with Ohio law. However, this is being done without regard for the clinician's experience in clinical investigation and without regard to proposed methods of determining the effect of the vaccine. The best one can expect from such an experiment is a series of uncritical anecdotal accounts without scientific value."

Because scientific data are lacking, "it is the opinion of the Special Committee (of the Cleveland Academy of Medicine) that use of the Rand 'vaccine' in human beings is completely unwarranted. Unfortunately, publicity which encourages the use of the 'vaccine' continues to appear, and the use of this agent in the community is increasing."

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

VD Must Be Reported!

"Any physician or other person who makes a diagnosis in or treats a case of venereal disease, and every superintendent or manager of a hospital, dispensary, or charitable or penal institution, in which there is a case of venereal disease, and every laboratory performing a positive test for venereal disease, shall report such case or positive test immediately in writing to the State Board of Health, stating the name and address . . . of the diseased person. . . ." (excerpt from Code of Virginia, 1920, p. 548; Michie Code 1942; pp. 1554c).

This is the law. Why then are so many cases of venereal disease not reported to public health officials? This question perplexes public health officials who believe syphilis could be eradicated if carriers and their contacts could be traced and treated. But some physicians, unfortunately, appear reluctant to release to health officials the names of their VD patients, even though they are aware the entire investigative procedure is conducted in strictest confidence.

The years 1946 to 1948, the period in which the highest incidence of syphilis was recorded in Virginia, witnessed the successful development of absorption-delaying vehicles for out-patient penicillin therapy for syphilis. For the first time in the history of treatment of this disease an effective method of therapy was provided which could be administered with relative safety not only by specialists in the field, but by any qualified practitioner of medicine.

Improvement Bred Neglect

The resulting dramatic decrease in reported cases of syphilis from 1947 to 1957 is a success story in the field of public health. Although there is no question that there was a large and actual decrease in the incidence of syphilis during this era, part of the decrease in reported cases was undoubtedly due to the shift in treatment from public facilities and complete reporting, to private physicians and incomplete reporting. In an attempt to determine the extent of this incomplete reporting, a national survey of private physicians was made in 1962. All physicians were asked the number of patients with venereal disease whom they had treated during a three-month period and these figures were compared with the number of cases reported to the respective health departments. This data revealed that, on a national level, physicians had reported 11.3 percent of their primary and secondary syphilis cases, 37.5 percent of syphilis in other stages and 10.8 percent of the gonorrhea cases.

The survey revealed that Virginia physicians had reported 7.8 percent of their primary and secondary cases, 46.6 percent of syphilis in other stages and 17.2 percent of the gonorrhea cases. The percentage of total VD morbidity in Virginia reported by private physicians has shown a slight increase since 1962. During fiscal year 1966, 48.8 percent of the reported cases were from private physicians.

While diagnosis, treatment, and reporting of venereal disease is the responsibility of the physician, the contact investigation and follow-up in the community health aspects of venereal infection is primarily a function of the health department. Effective venereal disease control can be accomplished only through a bilateral cooperative team making certain that both infected and exposed persons are treated and investigated.

Epidemiology

Epidemiological follow-up is extremely time-consuming, and the physician and his staff rarely have the time required for this type of activity. Professionally trained and experienced specialists are needed for this purpose. The health department has such specialists trained to work in confidence with the physician and his patients in tracing contacts, including contacts living in other states. All physicians who diagnose and treat syphilis should consider these specialists as part of their staff and use them to the fullest possible extent.

Since 1962 the activities of the State Health Department's Venereal Disease Control Program have paralleled a nationwide effort toward syphilis eradication. Leading the list of activities in this effort is the epidemiology performed on reported cases of infectious syphilis.

Three hundred and thirty cases of primary and secondary syphilis were reported in Virginia in 1966; of these, 113 (34 percent) were reported by private physicians. Examination of contacts obtained through interview of early cases is the most productive casefinding technique available. The private physicians' contribution of reported cases in relation to the state total is shown in a summary of epidemiologic activity for infectious syphilis by reporting source, fiscal year 1966:

Reporting Source P & S Syphilis	Patients Interviewed	Contacts Obtained	Contacts Br. to Exam.	Contacts Br. to Rx
Total	324	872	851	138
Armed Forces	32	44	37	6
Private Physicians	110	208	175	41
Public Clinics	182	629	629	91

The follow-up of syphilis suspects on the basis of reactive serologic test is the second most productive area in casefinding utilized by health department workers. In 1962 Virginia's reporting law was amended to include a requirement that all laboratories report positive tests to the State Department of Health. Currently, only 26 states have such a regulation or law which requires reporting by laboratories. Implementation of this amendment to the reporting law increased the volume of reported serologic reactors by 20 percent. Last year the approximately 900,000 serologies run in the laboratories of the state produced 15,000 reactors. In general, compliance by laboratories to reporting requirements has been excellent.

Professional Education

Professional VD education constitutes probably the most practical segment of VD education today. The State Department of Health has been working closely with Virginia's two medical schools to augment the teaching of syphilis. Many reprints of articles, monographs, films, et cetera from the health department have been utilized in teaching medical school students. A lecture on the epidemiology of syphilis is presented to each class by a member of the VD program field staff. These workers have also promoted inclusion of VD education in schools of nursing.

For three years an intensive physician visitation program was carried out, whereby those physicians most likely to see VD patients were personally visited by the field staff. The purpose of the visit was to alert the physician to the increasing VD problem, familiarize him with the services offered by the health department, and solicit his help through better reporting.

Public Education

Ultimate eradication of syphilis from the United States is dependent upon an informed public with proper motivation to seek medical help in case of venereal infection. To accomplish this, venereal disease education must be included in the curricula of our schools, just as information on other infectious diseases is included. Much work is being done in Virginia by public health workers to attain this goal and VD education has been included in the schools of several areas of the state. Appearances are fre-

quently made by staff members before PTA's and other social, civic and fraternal organizations. In some localities practicing physicians are being asked to participate in venereal disease education classes in the school. This is an area in which the physician can be of valued assistance.

Our statewide program of venereal disease control can be greatly improved if each physician will:

1. Report each case of venereal disease.
2. Use the services of the Health Department's venereal disease investigators in each case, after preparing his patient to receive and cooperate with the investigator.
3. Participate in the local health education efforts.

Monthly Report of Bureau of Communicable Disease Control

	January 1967	January 1966
Brucellosis	4	1
Diphtheria	0	0
Hepatitis	48	47
Measles	217	144
Meningococcal Infections	6	4
Meningitis (Aseptic)	1	0
Poliomyelitis	0	0
Rabies (In animals)	17	21
Rocky Mt. Spotted Fever	0	1
Streptococcal Infections	1578	979
Tularemia	0	2
Typhoid Fever	0	0
Venereal Diseases		
Syphilis	203	158
Gonorrhea	632	619
Other	1	6

Patients Don't Always Follow Orders

Physicians have long known that some patients don't follow orders for taking medicine, or refuse to take it at all. A report in the (January 16th) Journal of the American Medical Association indicates how frequently this can occur. Among a group of Cleveland tuberculosis patients, 15 (30 per cent) of 50 patients were uncooperative about taking one drug, and 14 (42 per cent) of 33 failed to follow doctors' orders for taking another.

"In this era of potent and dangerous medications, patient reliability in taking drugs becomes a primary consideration. Most physicians are aware that some patients fail to take prescribed medicines, but few realize the extent of the problem."

The study started with clinic and pharmacy records at the University Hospital of Cleveland, which indicated that 50 persons in the outpatient department were supposed to be taking the drugs isoniazid and/or aminosalicylic acid. It became apparent large numbers of patients weren't following directions when urine tests failed to reveal any trace of the drugs.

There were 20 men and 30 women patients, ranging in age from 17 to 78, with an average and median age of 45. Forty-eight were known to have tuberculosis. Forty-five were Negro and five, white. All but one lived in a poor downtown section of east Cleveland. Forty-five (90 per cent) understood perfectly the instructions for taking their medicines.

"Detection of the patient who is not taking his medicine is difficult. Simply asking him seems unsatisfactory since patients tend to claim that they have taken medicine when direct evidence indicates that they have not.

An earlier study, for instance, indicated that 83 per cent of families claimed to have given a full 10-day course of penicillin to their children when evidence indicated that 82 per cent had stopped the medicine by the ninth day.

Some patients also tend to deny taking medicines when they have. One study found that 29 of 38 patients who had taken meprobamate, barbiturates, or phenothiazines denied taking these drugs.

Mental Health . . . .

JULIAN C. HOUSEMAN

Mental Hygiene Clinics

The clinic program of the Department of Mental Hygiene and Hospitals in Virginia has expanded commensurately with the other activities in the Department over the past ten years by virtually every yardstick. Eight new clinics have been opened during the past ten years with the State's contributions towards the total clinic increasing during each biennium. The State appropriation for clinic operations for the 1956-58 biennium was $499,229; the appropriation of the last General Assembly for the current two-year period amounts to $2,002,795, four times as much as ten years ago. As a matter of fact, the increase in the current biennium over the 1964-66 period of $864,-170 is much larger than the total State clinic contribution just ten years ago.

The case loads in the clinics have nearly doubled. There was a total of 8,419 cases handled by the twenty clinics in existence for the fiscal year 1957 as compared to 15,504 cases in the 29 reporting clinics for the fiscal year 1966. The clinic staffs today total 192 employees, including 42 physicians, some of them maintaining a schedule of office hours for treatment and consultation; 38 psychologists and 35 psychiatric social workers. The remaining are accounted for in back-up personnel.

Mental Hygiene Clinics in Virginia

Sidney Shankman, M.D., Director
Alexandria Mental Hygiene Clinic
815 King Street
Alexandria, Va. 22314

John A. Knapp, M.D., Director
Alleghany Mental Hygiene Clinic
544 Church St.—P.O. Box 258
Clifton Forge, Va. 24422

Irving Schneider, M.D., Director
Arlington Mental Health Center
1800 N. Edison Street
Arlington, Va. 22207

James N. Williams, M.D., Director
Atlantic Mental Hygiene Center
2022 Atlantic Avenue
Virginia Beach, Va. 23451

Everett L. Haas, M.D., Director
Bristol Mental Health Clinic
Bristol Memorial Hospital
Bristol, Va.-Tenn. 24201

Jerrold Hammond, M.D., Director
Childrens Service Center
1312 Lane Road
Charlottesville, Va. 22903

Lawrence A. Bernert, Jr., M.D., Director
Community Psychiatric Clinic
334 Effingham Street
Portsmouth, Va. 23704

Jessie M. Enslin, M.D., Director
Danville Clinic for Mental Hygiene
116 South Ridge Street
Danville, Va. 24541

Mr. Walter Gust, Acting Director
Educational Therapy Center
2824 North Avenue
Richmond, Va. 23222

Simon Auster, M.D., Director
Fairfax-Falls Church Mental Health Center
2949 Sleepy Hollow Road
Falls Church, Va. 22044

HOUSEMAN, JULIAN C., *Information Director, Department of Mental Hygiene and Hospitals.*

Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

Donald Lloyd Reed, M.D., Director
Fredericksburg Area Mental Hygiene Clinic
1206 Princess Anne Street
Fredericksburg, Va. 22401

William S. Allerton, M.D., Director
Loudoun County Guidance Center
18 N. King Street
Leesburg, Va. 22075

T. J. Lassen, M.D., Director
Lower Peninsula Mental Hygiene Clinic
95-30th Street
Newport News, Va. 23607

H. Marjorie Sloan, M.D., Director
Lynchburg Guidance Center
1010 Miller Park Square
Lynchburg, Va. 24501

Mr. Alton McCoy, Acting Director
Massanutten Mental Health Center
420 E. Market Street
Harrisonburg, Va. 22801

Patrick H. Drewry, Jr., M.D., Director
M.C.V. Psychiatric Clinic—Box 253
Medical College of Virginia
Richmond, Va. 23219

Joan Meiller, M.D., Acting Director
Memorial Guidance Clinic
3001 Fifth Avenue
Richmond, Va. 23222

Jean M. Glasgow, M.D., Consultant
Mountain Empire Guidance Center, Inc.
710 Clement Street
Radford, Va. 24141

Dietrich W. Heyder, M.D., Director
Mental Health Center of Norfolk and Chesapeake
401 Colley Avenue
Norfolk, Va. 23507

Bruce M. Gray, M.D., Director
Northwestern Psychiatric Clinic
117 West Boscawen Street
Winchester, Va. 22601

H. Marjorie Sloan, M.D., Acting Director
Patrick Henry Mental Hygiene Clinic
15 Cleveland Avenue
Martinsville, Va. 24112

Eugene Makarowsky, M.D., Director
Richmond Area Psychiatric Clinic
101 South Fifth Street
Richmond, Va. 23219

Hans H. Stroo, M.D., Director
Roanoke Guidance Center
1125 First Street, S. W.
Roanoke, Va. 24016

Kurt Morbitzer, M.D., Director
Southside Area Mental Hygiene Clinic
12 E. Tabb Street
Petersburg, Va. 23803

John E. Carlton, M.D., Director
Tidewater Mental Health Clinic
427 Nicholson Street
Mailing address: P.O. Box 838
Williamsburg, Va. 23185

William M. Sheppe, Jr., M.D.
Director, Mental Health Clinic
Box 267, University of Virginia Hospital
Charlottesville, Va. 22901

Bernard H. Kasinoff, M.D., Director
Valley Mental Health Center
20 N. Market Street
Staunton, Va. 24401

Editorial . . . .

Continuing Medical Education

THE INTRUSION of the Federal Government into the field of post-graduate education through the "Heart, Cancer and Stroke Program" will pour a large amount of money into this activity. If these funds are spent wisely, the gap between the research laboratory and the patient can be narrowed. If the program is administered with the usual government inefficiency it will become another "Great Society Bonn-doggle". We have a large stake in this program and must see that it is carefully supervised by practicing physicians and medical school professors.

There is little data available to prove that this program is needed and nothing to show how it can function best. This program was born of a bureaucrat, nurtured by full-time professors and raised to maturity by medical school deans. All medical schools need more money and no dean can pass up any new source of money. The extent of obsolete or poorly trained physicians is unknown but it is exaggerated in the minds of the full-time professors who see only those few patients who did not respond to the treatment prescribed by the family physician. How much of this problem is due to an excessive patient load, lack of cooperation by stupid patients, or to inadequate post-graduate medical education is unknown. To expect the program of continuing education to correct all the problems is unrealistic and yet the bureaucrats will blame an uncooperative medical profession for any failures.

There is a point of diminishing returns in any program of continuing education. The practicing physician must spend many hours caring for his patients and any time spent on continuing education is stolen from the leisure hours with his family. Poor attendance at our present programs is due to the fact that we seldom learn enough to justify the expenditure of this much time. Few physicians have time to read all of the medical journals and medical newspapers that they receive. The tape recorded review programs help some, but are soporific to others. The scientific programs of county medical societies and hospital staffs are often given less time than is spent on insignificant administrative details. The lectures, medical movies and scientific exhibits at state and national meetings contain some worthwhile information but this must be carefully looked for. Often the presentation is only a paraphrase of old information. The motive behind some of these presentations is to either sell a drug, a medical center, or a physician. The presentations that really help us improve our methods of diagnosis and treatment are too few.

Because of a fortunate chain of circumstances, Virginia should have the most efficient and the most effective program of continuing education in the country. The deans of both of our medical schools have the

broad medical viewpoint that comes from experience in private medical practice. Each school has appointed an outstanding physician and teacher to become the Assistant Dean in Charge of Continuing Education. These Assistant Deans have had years of experience in the practice of medicine and in various capacities in all types of continuing medical educational programs. There is no one better qualified for these two difficult positions. However, they will need suggestions from all of us to plan a program that will help the city specialists as well as the country generalist. They need to know what programs are worthwhile and which ones are a waste of our time and their money. They need to maintain close liaison with the President and program chairman of every hospital staff, county medical society and specialty association in the Commonwealth. They need to know what our correctible deficiencies are and which diseases are being improperly diagnosed and treated. They must be aware of the new contributions that should be adopted by practicing physicians. With mutual cooperation, constant review, revision and experimentation on new programs we can have a successful program of continuing education. Now is the time for each of us to review our own program of continuing education and let the Assistant Deans have our suggestions.

James M. Moss, M.D.

Dr. Kendig's New Book

THE PHYSICIANS OF VIRGINIA, in common with those throughout the country, are doubtless better doctors than those who practiced a generation ago. In spite of this, or perhaps because of it, while the physicians of Virginia are generally better trained than their predecessors, undoubtedly today fewer Virginians are recognized as national medical leaders. The various certifying boards and the numerous requirements that all physicians must now conform to has resulted in a drab, leveling process that no longer produces those outstanding medical men and authors who once flourished in Virginia.

The writer recalls a meeting of the Richmond Academy of Medicine, just prior to World War II, which set aside the usual scientific program in order to honor four members of the Academy who were current presidents of their national specialty societies. Several of these men were authors who had produced books of outstanding value. This was true also at Charlottesville and several excellent books have appeared there during the past few years. On the other hand this situation has been notably absent in Richmond in the recent past. It is true that we are surfeited by articles with the inevitable list of co-authors appended to each title, but many of these contributions deal with various aspects of minutia that will be little noted nor long remembered.

All of the foregoing leads up to a happy exception to the recent rule. Within the past month W. B. Saunders Company (Philadelphia and

London, 1967) has published *Disorders of the Respiratory Tract in Children* by Dr. Edwin L. Kendig, Jr., M.D., Professor Pediatrics, Medical College of Virginia and Director of Child Chest Clinics in this institution. This beautifully bound and exceptionally well illustrated books is divided into 11 sections and 67 chapters. Twenty-nine outstanding collaborators contributed to this volume. Seven members of the faculty of the Medical College of Virginia aided in this compilation. Faculty members of 14 medical colleges, some as distant as Canada and England, participated in this detailed and massive collection of data which doubtless will long continue to be the definitive text on this subject.

This book presents a comprehensive volume on respiratory disorders in children from tonsillitis to emphysema or lung tumor. The functional basis of pulmonary pathology in children is excellent and a very lucid translation of physiology for pediatricians. The chapters on history-taking and physical examination include many new ideas and the most recent methods. Asthma, one of the most common, yet difficult, problems in pediatrics, is dealt with by Dr. Susan C. Dees. The present knowledge of cystic fibrosis is well summarized by Dr. Harry Shwachman. This book, which runs well over 800 pages, is unquestionably the best reference for disorders of the respiratory tract in children.

Dr. Kendig has produced the first outstanding medical book in depth in Richmond during the past decade and we should feel proud of his accomplishment. Let us hope that this is the beginning of a revival of medical literature in this city.

H.J.W.

News . . . .

Calendar of Events

Eighteenth Annual Northern Virginia Clinical Assembly—Marriott Twin Bridges Motor Hotel—Arlington—March 15, 1967.

Eighteenth Annual Post Graduate Day Program—Roanoke Memorial Hospital—Roanoke—March 16-17.

Seminar on Lumps and Bumps—Petersburg General Hospital—Petersburg—March 20, 1967.

Stoneburner Lectureship: Clinical Pharmacology and Therapeutics—Dr. Stewart G. Wolf, Oklahoma, Lecturer—Medical College of Virginia—Richmond—March 30-31, 1967.

Seminar on Emphysema—Petersburg General Hospital—Petersburg—April 3, 1967.

Annual Clinical Conference—Louise Obici Memorial Hospital—Suffolk—April 5, 1967.

Post Graduate Course on "The Newborn Infant—1967"—University of Virginia School of Medicine—Charlottesville—April 7-8, 1967. Guest Faculty includes Dr. C. A. Smith, Boston, and Dr. W. W. Wheeler, University of Kentucky.

Second Virginia Congress on Mental Health and Illness—John Marshall Hotel—Richmond—April 14-15, 1967.

Virginia Society of Anesthesiologists—4th Annual Meeting and Scientific Symposium—Sheraton Motor Inn—Richmond—April 14-16, 1967.

Seminar on Skin Lesions Associated with Systemic Disease—Petersburg General Hospital—April 17, 1967.

Cancer Workshop—Sponsored by Commission on Cancer of the American College of Surgeons—Medical College of Virginia—Richmond—April 21, 1967.

National Congress on Environmental Health Management—Americana Hotel—New York—April 24-26, 1967.

Tenth Annual Joint Cardiac Symposium—Sponsored by Heart Association of Northern Virginia and Washington Heart Association—Marriott Twin Bridges Motor Hotel—Arlington—April 27, 1967.

Medicine and Religion Symposium—Sponsored by AMA Department of Medicine and Religion, University of North Carolina School of Medicine and Medical Society of the State of North Carolina—Chapel Hill, North Carolina—June 11-13, 1967.

Annual Meeting of American Medical Association—Atlantic City, New Jersey—June 18-22, 1967.

Eighth Annual Cardiovascular Symposium—Sponsored by Tidewater Heart Association—Golden Triangle Motor Hotel—Norfolk—September 15-16, 1967.

New Members.

The following members were received into The Medical Society of Virginia during the month of January:

John Robert Blackmore, M.D., Richmond
Jeffress Hannings Boozer, M.D., Charlottesville
O. Christian Bedrup, M.D., Richmond
John J. Charles, M.D., Clifton Forge
Benjamin N. Jones, M.D., Roanoke
Richard Martin Klein, M.D., Danville

Philip Morton Levy, M.D., Newport News
William Joseph Massey, III, M.D., Charlottesville
James Edmonson Nevin, III, M.D., Danville
Spyros Philippakis, M.D., Norfolk
E. Armistead Talman, M.D., Richmond
Ira Sanders Young, M.D., Annandale

Arlington County Medical Society.

Dr. Gerald J. Fisher is the new president of this Society and Dr. Robert Byrne is president-elect. Dr. Robert H. Gruver is vice-president; Dr. Arthur I. Sims, secretary; Dr. Timothy L. Kelly, Jr., treasurer; and Dr. John J. Noland, member-at-large.

Alexandria Medical Society.

Dr. M. Hayne Kendrick has been installed as president of this society, succeeding Dr. Robert H. Anderson. Dr. James B. Gilbert was named president-elect; Dr. Charles E. Law, vice-president; Dr. Bruce L. Gilmore, secretary; and Dr. Roy S. Gillinson, treasurer. Executive Committee Members-at-Large are Drs. Robert H. Anderson, A. David Bernanke, and Ira J. Green.

Danville-Pittsylvania Academy of Medicine.

Dr. Baxter H. Byerly is the new president of the Academy with Dr. Girard V. Thompson, vice-president, and Dr. Frank Turner, secretary-treasurer.

The Virginia Society of Ophthalmology and Otolaryngology

Will hold its 1967 meeting on April 27, 28 and 29 at The Homestead, Hot Springs. Early reservations are recommended. Eye and ENT papers will be given concurrently in separate rooms on both Thursday and Friday and the schedule for Saturday will be announced later.

Guest speakers will be Drs. John H. Dunnington, F. Phinizy Calhoun, George N. Wise, Richard W. Hanckel, William F. House, and F. Johnson Putney.

Further information may be obtained from Dr. Mason Smith, secretary-treasurer, 2035 Monument Avenue, Richmond.

Medical Council of Washington Metropolitan Area.

Dr. Robert Guillaudeau, of the Fairfax County Medical Society, has been elected president of the Council for 1967. Dr. Henry D. Ecker of The Medical Society of the District of Columbia is vice-president, and Mrs. Mary T. Peirano, Fairfax County Medical Society, is secretary-treasurer. The Council is composed of the president, the past president and the president-elect of each of the medical societies of the area—Alexandria, Arlington, District of Columbia, Fairfax, Montgomery and Prince Georges.

Camp for Diabetics.

A camp for diabetic boys and girls, ages 8-13, will be held August 4-31, 1967, at Boyd's Tavern, Virginia. The fee for the four weeks will be $275.00. It is hoped contributions may be made for campers unable to pay their own expenses. Anyone interested may contact Dr. William G. Thurman, University of Virginia School of Medicine, Charlottesville.

The Annual Clinical Conference

Of the Louise Obici Memorial Hospital, Suffolk, will be held on April 5th. Recent Advances in Coronary Heart Disease will be the subject for discussion. Participants will be Dr. Felix Wroblewski, Brookdale Hospital, Brooklyn, moderator; Dr. Earl Shirey, Cleveland Clinic, Cleveland; Dr. William Elliott, Peter Bent Brigham Hospital, Boston; Dr. Goffredo G. Gensini, St. Joseph's Hospital, Syracuse, and Dr. David C. Sabiston, Jr., Duke University, Durham.

The second portion of the program will be a discussion of the Millis Report by Dr. Edgar Bowerfind, Cleveland, secretary of

the Citizens Commission on Graduate Medical Education. This will be followed by a panel with Dr. Bowerfind, Dr. Kinloch Nelson, Dean, Medical College of Virginia, and Dr. Kenneth R. Crispell, Dean, University of Virginia, as participants.

The annual award for outstanding contributions to medicine will be presented to Dr. Wroblewski.

Further information may be obtained from Dr. George J. Carroll, Louise Obici Memorial Hospital, Suffolk.

Dr. John R. Saunders.

Medical Director, Westbrook Psychiatric Hospital, has been named President-Elect of the National Association of Private Psychiatric Hospitals. The election took place during the Association's annual meeting at Palm Springs, California in January.

This is the third time in the 34-year history of the Association that a member of Westbrook's staff has been so honored. Dr. James K. Hall served as President in 1938 and Dr. Rex Blankinship in 1956.

Dr. William S. Sloan,

Petersburg, has been installed as president of the Kiwanis Club for the year of 1967.

Dr. William H. Higgins, Jr.,

Richmond, has been appointed by Governor Godwin as a member of the Virginia Cultural Development Study Commission.

Dr. John W. Kolmer

Has joined the staff of Gill Memorial Eye, Ear, Nose and Throat Hospital and Clinic in Roanoke.

Dr. Jerome E. Adamson,

Norfolk, has been elected chairman of the Section on Plastic and Reconstructive Surgery of the Southern Medical Association.

Medical and Chirurgical Faculty of the State of Maryland.

The 169th annual meeting of the Faculty will be held at The Alcazar, Baltimore, April 19-21. One of the guest speakers will be Dr. Richard E. Palmer, Alexandria, his subject being Laboratory Procedures in the Office of the GP.

All physicians are invited to attend these sessions. There is no registration fee and credits will be given by the Academy of General Practice.

A copy of the detailed program may be obtained by writing James B. Brooks, M.D., Chairman, 1211 Cathedral Street, Baltimore, Maryland.

Dr. Neil Callahan,

Norfolk, has been elected chairman of the Section on Otolaryngology of the Southern Medical Association.

Dr. Rudolph C. Thomason,

Richmond, has been re-elected president of the Richmond Eye Hospital.

Dr. C. P. Laughlin,

Newport News, has been elected president of the Hampton Roads Speech and Hearing Center. He succeeds Dr. Thomas W. Payne, retired.

Dr. W. Clarke Pole,

Norfolk, has been elected president of the Tidewater Branch of the Arthritis Foundation.

Virginia Association of Medical Assistants

The Executive Board of the Virginia Association of Medical Assistants held its first meeting of 1967 under the guidance of their new president, Mrs. Charlotte Davis, in Portsmouth, January 22.

As far as I could observe, the financial and clerical status of the Association was in excellent condition.

I would like to especially emphasize the Educational Seminar to be held at the Hotel Roanoke, May 21, 1967, to be preceded by a meeting of the Executive Board. The Registration Fee for this Seminar is $7.50 and May 10 is the deadline for Registration.

DOCTORS, I urge you to insist upon your office personnel becoming members of their local, state and national organization of Medical Assistants and attending this Seminar which promises to be most informative and will prove of great benefit to the office personnel who attend as well as the more efficient and satisfactory operation of the offices in which they work.

I hate to keep repeating the same request but repetition does bear emphasis and I would suggest that, where possible, the employers of these young ladies bear part or all of the membership dues in the local, state and national organization as well as the registration fee to attend this Seminar and also allow these young ladies time off to attend the Seminar and State meetings and, if possible, National meetings, bearing part or all of the expenses of these ladies at these meetings as these expenses are TAX DEDUCTIBLE and I feel will give a high degree of reward in return for this investment.

JOHN WYATT DAVIS, JR., M.D.
AAMA Advisor

Office Space Available

In a professional building suitable for either a specialty or general practice in the Northern Virginia area of Manassas. The offices are located next to the Prince William County Hospital in an area where there is a practice opportunity for all branches of medicine. For further information call Miss Juanita Sibold at 703-368-8166. (*Adv.*)

For Rent.

Sub-lease with two years of lease remaining office in West End of Richmond. 1,040 square feet of space, modern, near St. Mary's Hospital. Further information may be obtained from Pendleton E. Thomas, III, M.D., at 282-7676, Richmond. (*Adv.*)

Position Available.

Maternity and Infant Care Project Director. Male or female. Eligible for license to practice in Virginia. Board Certified in Obstetrics and Gynecology or in Pediatrics. Stimulating position in large City Health Department with excellent fringe benefits. Salary range $15,000 to $19,600 annually. Employment in advanced step, based upon qualifications. For further information, contact Director of Public Health, Richmond City Health Department, 500 North 10th Street, Richmond, Virginia. (*Adv.*)

Obituaries . . . .

Dr. Jay Clarence Coulter,

Charlottesville, died January 18th, at the age of eighty-five. He received his medical degree from the University of Virginia in 1907. Dr. Coulter practiced in Charlottesville until 1952 when he left to become assistant physician for the Forsythe County (North Carolina) Tuberculosis Sanatorium and later a member of the Graves County (Kentucky) Health Department. He returned to Charlottesville in 1960. Dr. Coulter had been a member of The Medical Society of Virginia for fifty-three years.

His wife, a daughter and two stepdaughters survive him.

Dr. Frank P. Smart,

Norfolk, died December 17th. He was eighty years of age and a graduate of the School of Medicine, University of Virginia, in 1911. Dr. Smart was an eye, ear, nose and throat specialist and began his practice in Norfolk after service with the Navy Medical Corps. Next to medicine, his love was music and for more than twenty-five years he was among the Norfolk Symphony Orchestra's faithful amateurs. He learned to play any instrument that was lacking —the bull fiddle, the oboe, and the violincello.

Dr. Smart had been a member of The Medical Society of Virginia for fifty-three years.

Dr. Simon Benjamin Whitlock,

Norfolk, died January 21st, at the age of seventy-four. He received his medical degree from the University of Virginia in 1917. He became a member of the Navy Medical Corps and served as a lieutenant throughout World War I. After the war, Dr. Whitlock began his practice in Norfolk where he specialized in radiology. He was an avid baseball fan and attended most of the World Series since 1917, was team physician for the Norfolk Tars baseball team and for thirty-five years team physician for Maury High School. Dr. Whitlock was also an authority on the 1929 stock market crash and maintained a file on the history of the crash.

Dr. Whitlock was a member of The Medical Society of Virginia, having joined in 1920.

Dr. James McLean Rogers,

Glade Spring, died in Florida on January 9th, at the age of seventy-four. He was a graduate of the Medical College of Virginia in 1917 and served for many years as medical missionary to Korea. Dr. Rogers returned to this county in 1941 and began his practice in Glade Spring where he continued until his retirement. He was a member of The Medical Society of Virginia, having joined in 1922.

His wife, a daughter and two sons survive him.

Dr. George Simmerman Bourne,

Roanoke, died January 5th. He was fifty-seven years of age and a graduate of the University of Virginia, Department of Medicine, in 1934, Dr. Bourne began his practice in Roanoke in 1939. He was former chief of staff at Roanoke Memorial Hospital. Dr. Bourne had been a member of The Medical Society of Virginia for twenty-five years.

His wife, two daughters and three sons survive him.

Dr. Milton Henry Brockmeyer,

Pulaski, died December 29th, at the age of forty-nine. He received his medical degree from the University of Virginia in 1952. After an internship, Dr. Brockmeyer began his practice in Pulaski. He was a recipient of the Andrew Carnegie Award

for medical research. Dr. Brockmeyer had been a member of The Medical Society of Virginia for fourteen years.

His wife and two sons survive him.

Dr. Ernest Boling Saye,

Halifax, died December 26th following a heart attack. He was seventy-six years of age and a graduate of the University of Georgia in 1911. Dr. Saye was pathologist at the Community Hospital where he had been since 1963. Before coming to Halifax he was assistant pathologist at Richmond Memorial Hospital. Dr. Saye had previously served as assistant professor of Pathology at Baylor University and associate professor of pathology at Emory University. He was a member of The Medical Society of Virginia.

A daughter and one granddaughter survive him.

Dr. Talley.

Daniel D. Talley, Jr., was the son of Daniel D. Talley and Julia Harris Talley and was born June 25, 1882, in Richmond. He died October 8, 1966, at the age of eighty-four.

His early education was pursued at McGuire's School and St. Alban's School. He received a B.A. degree from the University of Virginia in 1904 and an M.D. degree from the Medical College of Virginia in 1906. In 1908 he decided to enter the field of radiology. This was only ten years after the discovery of x-rays by Roentgen. Opportunities for graduate study of radiology were poorly developed at this time. He spent several months as an apprentice in the Radiology Departments of Philadelphia General Hospital and Jefferson Hospital in Philadelphia, Pa. He continued his training in radiology by diligent study and frequent attendance at worthwhile medical meetings.

He practiced in Richmond for fifty-three years before retiring in 1959. He was one of the original visiting staff of the Johnston-Willis Hospital. He set up the Radiology Department in this hospital and was associated with it continuously until his retirement.

He was a Board Member and Treasurer of the Johnston-Willis Hospital for many years, a Board Member of the Tucker Sanatorium and the Crippled Children's Hospital. He was Chairman of the Department of Radiology at the Medical College of Virginia from 1933 to 1935, and later was named Emeritus Professor of Radiology at the College.

He was a member of the Richmond Academy of Medicine, The Medical Society of Virginia, American Medical Association, Tri-State Medical Association, Virginia Radiological Society, American Roentgen Ray Society, of which he was first Vice President in 1913 and the oldest member at his death. He was a Fellow of the American College of Radiology.

During World War I he was an instructor in the Military School of Radiology with the rank of Lieutenant j.g. in the United States Naval Reserve.

He was a member and former vestryman of Grace and Holy Trinity Episcopal Church.

On April 29, 1920, he married Anne Hays Myers. She survives him along with three sons, Dr. Daniel D. Talley, III, Dr. Lilburn T. Talley, and Edmund M. Talley.

Therefore, be it resolved that a copy of this obituary be entered in the minutes of the Richmond Academy of Medicine and a copy be sent to his family.

Dean B. Cole, M.D.
Oscar L. Hite, M.D.
T. Dewey Davis, M.D., *Chairman*

Dr. Eggleston.

Dr. Eugene C. Eggleston, a Richmond obstetrician and general practitioner, died suddenly August 16th while playing golf, with acute coronary insufficiency, without prior symptoms.

Dr. Eggleston was born July 6, 1887, at Chula, Amelia County. He was the thirteenth child and seventh son of Dr. Joseph William Eggleston and Lucy Jefferson Eggleston. Including his father, a dentist, and himself, there were two medical doctors and three dentists in his family.

Dr. Eggleston received his early education in the Richmond Public Schools, McGuire's University School and the University College of Medicine, now combined with the Medical College of Virginia, graduating in 1908 at the age of 21. He interned at the old Richmond City Hospital.

Dr. Eggleston practiced his profession at various locations, among them being Otterville, in Bedford County, where he met and married, on September 6, 1910, his wife Katherine White Eggleston. He returned to Richmond in 1919 and established his first office at 1200 Bainbridge Street. His office remained at that address until his death, therefore, serving one community for forty-seven years. At his death, Dr. Eggleston was seventy-nine, and had been a practicing physician for fifty-eight years.

He was a member of the American Medical Association, The Medical Society of Virginia, Richmond Academy of Medicine and Manchester Medical Society. Dr. Eggleston taught gynecology at the Medical College of Virginia from 1919 to 1944. He was

on the staff of the Medical College of Virginia and Retreat for the Sick hospitals. He was a member of Alpha Sigma Chi fraternity.

Dr. Eggleston's Richmond Masonic affiliations were extensive, being a member of Dave Lodge No. 51 A.F. & A.M., the Manchester Royal Arch, Chapter 48, the Scottish Rite and Acca Temple Shrine. He was also a Past Master of Dixie Lodge No. 202, A.F. & A.M. at Fries, Virginia.

He was a member of St. Mark's Episcopal Church in Richmond.

Eugene Conway Eggleston was a skilled dedicated physician (even keeping Sunday night office hours until death), a considerate husband and friend, a respected and honest citizen, and in addition to all that, always a gentleman.

JOHN T. EASTHAM, M.D.

Dr. Grigg.

The death of Dr. William Franklin Grigg, Jr., on July 15, 1966, at the age of 48, brought to a close a vigorous life exemplified by devoted service to his profession and mankind.

He was born in Richmond, the son of Dr. William Franklin Grigg and Lenora McClees Grigg.

He graduated from John Marshall High School and the University of Richmond, and in 1942, he received his medical degree from the Medical College of Virginia. He served a rotating internship at Walter Reed Hospital from July 1942 to June 30, 1943, following which he was on active duty as a First Lieutenant. Shortly thereafter, he was given a medical discharge because of hypertension. From January 1944 to July 1948, he completed his surgical residency at the Medical College of Virginia. Additional training was also obtained at George Washington University Hospital. He was then resident in Thoracic Surgery at Oteen Veterans Administration Hospital from July 1948 to July 1950.

Following the completion of his training, he began his practice of surgery in his father's office on West Franklin Street. His hypertension became more apparent, and in 1954, he had the Smithwick operation for control of his hypertension. With the history in his family of mortality from hypertension, he believed that he lived on borrowed time. This pushed him, often when ill with tension and pain, to accomplish as much as possible in a short time.

He was a Clinical Associate in Surgery at the Medical College of Virginia. He was affiliated with Richmond Memorial, Retreat for the Sick, St. Mary's and Sheltering Arms Hospitals. He was a member of the local, state, and national medical societies. He belonged to the Richmond Surgical and Gynecological Society and to the Southeastern Surgical Congress. He was an active member of the St. Stephens Episcopal Church. He belonged to the Sons of the American Revolution, Izaak Walton League, Deep Run Hunt Club, Virginia Museum, Country Club of Virginia, and was President of the Richmond Amateur Radio Club, and a Major in the Civil Air Patrol. In 1964, he organized "Operation Tangier", which was a successful broadcast appeal for a physician on Tangier Island. His time and talents were further utilized in his keen sense of obligation to enhance the cultural life of this community. His photographs were frequently exhibited, he played a leading role in starting radio station WFMV, the first stereo station in this area for good music, and, in sharing his wife's many cultural accomplishments, he played the role of a wise man in the Christmas Eve Pageant at the Carillon for the past thirteen years.

Dr. Grigg was loved and respected by his patients who always took pride in the fact that Dr. Grigg was their doctor. His dry humor that could turn any situation into laughter bespeaks the man being honored here tonight.

He is survived by his wife, Mrs. Betty Carper Grigg; two sons, William Franklin Grigg, III, and Harold Carper Grigg; his mother and a brother.

WHEREAS, Dr. Grigg, a true physician and skilled surgeon, was loved by his many friends, professional colleagues, and patients, and

WHEREAS, his early death will be mourned by the Academy and all who were privileged to know him,

THEREFORE, BE IT RESOLVED that a copy of this resolution be placed in the minutes of the Richmond Academy of Medicine, a copy sent to the Virginia Medical Monthly, and copies be presented to the family.

C. COOPER BELL, JR., M.D., *Chairman*
DAVID M. DUMVILLE, M.D.
MARTIN MARKOWITZ, M.D.

In peptic ulcer... antacid therapy with a new benefit

CONTAINS A BALANCED COMBINATION OF THE MOST WIDELY USED ANTACIDS— FOR RAPID NEUTRALIZATION. PLUS SIMETHICONE— TO CONTROL THE FACTOR WHICH ANTACIDS ALONE CANNOT INFLUENCE.

Mylanta®

- In Mylanta, aluminum and magnesium hydroxides are balanced to minimize the chance of constipation or laxation and still achieve rapid acid neutralization and pain relief.
- The positive action of simethicone helps relieve the painful gas symptoms which often accompany the peptic ulcer syndrome.
- The nonfatiguing flavor and smooth, nongritty consistency of tablets and liquid encourage continued patient cooperation during long-term therapy.

Composition: Each Mylanta chewable tablet or teaspoonful (5 ml.) of liquid contains: magnesium hydroxide, 200 mg.; aluminum hydroxide, dried gel, 200 mg.; simethicone, 20 mg. **Dosage:** one or two tablets, well chewed or allowed to dissolve in the mouth, or one or two teaspoonfuls of liquid to be taken between meals and at bedtime.

The Stuart Company, Pasadena, California
Division of Atlas Chemical Industries, Inc.

Stuart

What can be done for Susan Jane To stop the runs and crampy pain?

Parepectolin for quick relief of acute diarrhea
...soothes colicky pain with paregoric
...consolidates fluid stools with pectin
...adsorbs irritants with kaolin, and protects intestinal mucosa.

In children, Parepectolin may be used to control diarrhea promptly and prevent dehydration, until etiology has been determined. In some cases, Parepectolin may be all the therapy necessary.

Parepectolin®

Each fluid ounce of creamy white suspension contains:
Paregoric (equivalent) ..... (1.0 dram) 3.7 ml.
Contains opium (¼ grain) 15 mg. per fluid ounce.
warning: may be habit forming
Pectin ..... (2½ grains) 162 mg.
Kaolin (specially purified) .... (85 grains) 5.5 Gm.
(alcohol 0.69%)
Usual Children's Dose: One or two teaspoonfuls three times daily.

RORER

WILLIAM H. RORER, INC.
Fort Washington, Pa.

Every Virginia Doctor Should Have These Books!

The history of medicine in the Old Commonwealth from Jamestown to the beginning of the present century is a work every doctor should be proud to own. Complete and intensely interesting.

Medicine In Virginia

By Wyndham B. Blanton, M.D.
Published under the Auspices of
The Medical Society of Virginia

Reduced price to members of The Medical Society of Virginia
18th Century—$2.00
19th Century—$2.00

Order through
The Medical Society of Virginia
4205 Dover Road
Richmond 21, Virginia

Today's Health

PUBLISHED BY THE American Medical Association
FOR THE AMERICAN FAMILY

A Good Buy in Public Relations

★ Place it in your reception room

Today's Health is published for the American Family by the American Medical Association, 535 N. Dearborn St.—Chicago 10, Illinois

Give your subscription order to a member of your local Medical Society Woman's Auxiliary, who can give you Special Reduced Rates.

UP TO 10-12 HOURS' CLEAR BREATHING ON ONE TABLET

Dimetapp® Extentabs®

(Dimetane® [brompheniramine maleate], 12 mg.; phenylephrine HCl, 15 mg.; phenylpropanolamine HCl, 15 mg.)

sinusitis, colds, or U.R.I., imetapp lets congested patients reathe easy again. Each Extentab rings welcome relief all day or all night, sually without drowsiness or over-imulation. Its key to success? The imetapp formula—Dimetane (brom-heniramine maleate), a potent anti-istamine reported in one study to have icited side effects as few as the placebo,* amed with decongestants phenyl-phrine and phenylpropanolamine—a dependable 10- to 12-hour form.

hiller, I. W., and Lowell, F. C.: New England Med. 261:478, 1959.

Contraindications: Patients hypersensitive to antihistamines. Not recommended for use during pregnancy.

Precautions: Until the patient's response has been determined, he should be cautioned against engaging in operations requiring alertness. Administer with care to patients with cardiac or peripheral vascular diseases or hypertension.

Side Effects: Hypersensitivity reactions including skin rashes, urticaria, hypotension and thrombocytopenia have been reported on rare occasions. Drowsiness, lassitude, nausea, giddiness, dryness of the mouth, mydriasis, increased irritability, or excitement may be encountered.

Dosage: 1 Extentab morning and evening, or as needed.

Supplied: Bottles of 100 and 500.

Also available: Dimetapp® Elixir for conventional *t.i.d.* or *q.i.d.* dosage. See package insert for further details.

A. H. ROBINS CO., INC.
RICHMOND, VIRGINIA 23220

A·H·ROBINS

℞

Don't delegate your authority in the choice of drugs

Generic prescribing allows a third party to choose for you. This does not of necessity ensure therapeutic effectiveness or lowest patient cost.

You can prescribe the quality and purity of ACHROMYCIN® V Tetracycline-Lederle at a cost that is within pennies-a-day of the low-priced generic tetracycline.

When you prescribe tetracycline, write ACHROMYCIN V. It's good policy, good medicine and good economy, all in one prescription. LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York.

MAJOR PRICE REDUCTION JAN. 15, 1967

ACHROMYCIN® V
TETRACYCLINE-LEDERLE

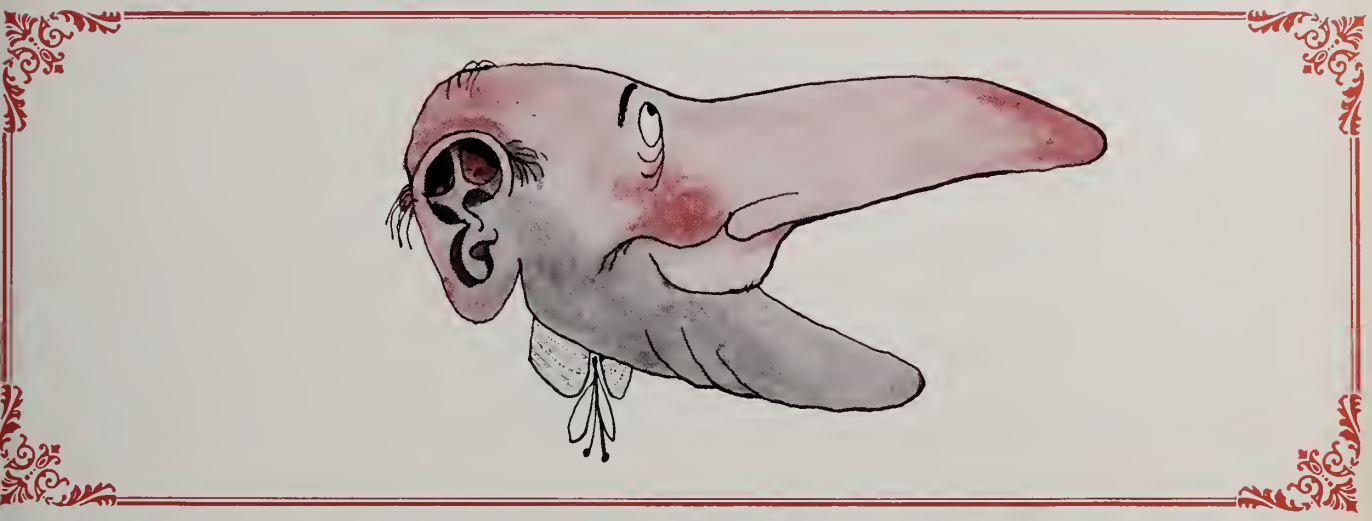
Lederle

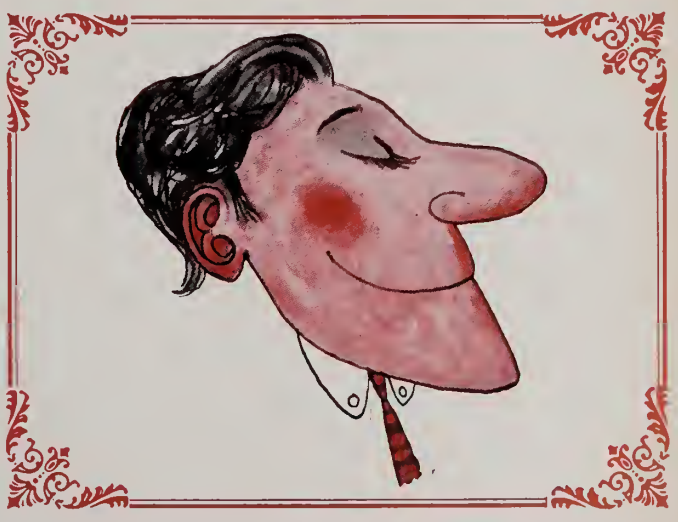
The Proof of Excellence is in the Performance

for noses of every description, one safe and sure prescription:

Otrivin®

(xylometazoline CIBA)
on Rx only





■ quickly relieves congested nose
■ action is gentle, yet prolonged
■ side effects are minimal

INDICATION: Nasal congestion. CONTRAINDICATION: Do not use in patients sensitive to small doses of sympathomimetic substances. WARNINGS: Prolonged or excessive use may cause rebound congestion. Use cautiously in patients with hyperthyroidism, coronary artery disease, hypertension, and diabetes. CAUTION: Do not shake Nasal Spray. Rinse Nasal Solution dropper or Nasal Spray tip in hot water after each use. No more than one person should use the same dropper bottle or nasal spray.
SIDE EFFECTS: Occasional local reactions: rebound congestion, slight burning or stinging, sneezing, dry nose. Occasional systemic effects: headache, drowsiness, lightheadedness, insomnia, palpitations. Overdosage in young children may produce profound sedation. DOSAGE: **Adults:** *Nasal Solution*—2 or 3 drops in each nostril every 4 to 6 hours. *Nasal Spray*—Squeeze rapidly once or twice in each nostril every 4 to 6 hours. **Children under 12:** *Pediatric Nasal Solution*—2 or 3 drops in each nostril every 4 to 6 hours. One drop should be used in infants under 6 months. *Pediatric Nasal Spray*—Squeeze rapidly once in each nostril holding tube upright; repeat every 4 hours as necessary. SUPPLIED: OTRIVIN® hydrochloride (xylometazoline hydrochloride CIBA) *Nasal Solution*, 0.1%; dropper bottles of 1 fluidounce, bottles of 1 pint. *Nasal Spray*, 0.1%; plastic squeeze tubes of 15 ml. *Pediatric Nasal Solution*, 0.05%; dropper bottles of 1 fluidounce. *Pediatric Nasal Spray*, 0.05%; plastic squeeze tubes of 15 ml. *Nasal Solutions* contain either 0.1% or 0.05% xylometazoline hydrochloride, triethanolamine, hydrochloric acid, sodium chloride, and phenylmercuric acetate 1:50,000 as preservative in water. *Nasal Sprays* contain either 0.1% or 0.05% xylometazoline hydrochloride, potassium phosphate monobasic, potassium chloride, sodium phosphate dibasic, sodium chloride, and benzalkonium chloride 1:5000 as preservative in water. *Consult complete literature before prescribing.*
CIBA Pharmaceutical Company, Summit, N. J.

C I B A

2/3329 MKL-1

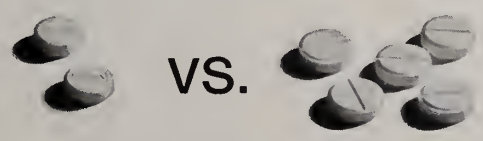
Do your patients
shell out too much
for a diuretic?

The answer may be yes... if they're not on Hygroton. For instance, a therapeutic dose of a short-acting diuretic may cost 3 times as much as an equivalent dose of Hygroton. With Hygroton, in fact, you can usually do the job with just one tablet a day or one every other day. It's no wonder that the trend has been away from short-acting, multiple-dose, high-cost diuretics.

You may hear that a short-acting diuretic was more effective in a 400 mg. (ten-tablet) dose than Hygroton in a 200 mg. (two-tablet) dose. If one considers maximum recommended doses for each product, tablet for tablet Hygroton was clearly superior. Two tablets of Hygroton were found to produce almost 40% more natruresis and 20% more weight loss than five tablets of the other diuretic.* Note that these are maximum recommended doses!

For effectiveness, economy, and convenience, therefore, Hygroton is the diuretic to choose to start with and the one to stay with.

*Brest, A. N., et al.: J. New Drugs 5:329, 1965.



Natruresis above control values after maximum recommended doses (mEq./24 hours) in "normal" patients

111	152
5 tablets short-acting nonthiazide diuretic	2 tablets Hygroton

48-hour weight loss after maximum recommended doses in edematous patients with congestive heart failure due to arteriosclerotic or rheumatic heart disease

1.84 lbs.	2.2 lbs.
5 tablets short-acting nonthiazide diuretic	2 tablets Hygroton

Indications: Hypertension and many types of edema involving retention of salt and water.
Contraindications: Hypersensitivity and most cases of severe renal or hepatic disease.
Warning: With administration of enteric-coated potassium supplements, the possibility of small bowel lesions should be kept in mind.
Precautions: Reduce dosage of concomitant antihypertensive agents by at least one-half. Discontinue if the BUN rises or liver dysfunction is aggravated. Electrolyte imbalance and potassium depletion may occur; take special care in cirrhosis or severe ischemic heart disease, and in patients receiving corticosteroids, ACTH, or digitalis. Salt restriction is not recommended.
Side Effects: Dizziness, weakness, nausea, vomiting, hyperglycemia, hyperuricemia, headache, muscle cramps, postural hypotension, constipation, leukopenia, thrombocytopenia, agranulocytosis, impotence, dysuria, transient myopia, skin reactions, including urticaria and purpura, epigastric pain, or G.I. symptoms after prolonged administration.
Average Dosage: One tablet (100 mg.) with breakfast daily or every other day.
Availability: Tablets of 100 mg. in bottles of 100 and 1000. For full details, see the complete prescribing information.
6524-V(B)

HY-4736S

Hygroton®
chlorthalidone

Geigy
Geigy Pharmaceuticals
Division of
Geigy Chemical Corporation
Ardsley, New York

SAINT ALBANS

PSYCHIATRIC HOSPITAL

(A Non-Profit Organization)

Radford, Virginia

Telephone: 639-2482

STAFF

James P. King, M.D., Director

William D. Keck, M.D.
Clinical Director
James K. Morrow, M.D.
Morgan E. Scott, M.D.

Edward E. Cale, Jr., M.D.
J. William Giesen, M.D.
Internist (Consultant)

Clinical Psychology:
Thomas C. Camp, Ph.D.
Cardestal McGraw, Ph.D.
David L. Strahley, Ph.D.

Don Phillips
Administrator
R. Lindsay Shuff, M.H.A.
Assistant Administrator

AFFILIATED CLINICS

Bluefield Mental Health Center
525 Bland St., Bluefield, W. Va.
David M. Wayne, M.D.
Phone: 325-9159

Beckley Mental Health Center
109 E. Main Street, Beckley, W. Va.
W. E. Wilkinson, M.D.
Phone: 253-8397

Charleston Mental Health Center
1206 Quarrier St., Charleston, W. Va.
Malcolm G. MacAulay, M.D.
Phone: 344-3578

Mental Health Clinic
Professional Building, Wise, Va.
Pierce D. Nelson, M.D.
Phone: 328-2211

Gill Memorial Eye, Ear, Nose And Throat Hospital, Inc. And Clinic

707-711 South Jefferson Street • Roanoke, Virginia

STAFF

Dr. Elbyrne G. Gill
Dr. Houston L. Bell
Dr. Ronald B. Harris
Dr. Scott W. Little
Dr. Junius E. Crowgey
Dr. Antonio B. DeGala
George H. Bratton
Business Manager
David G. Williamson, Jr.
Administrator

A Modern Fireproof Hospital and Clinic, the Latter Recently Designed in the Adjacent Seven-O-Seven Building Especially Equipped for the Medical and Surgical Care of Ophthalmology, Otalaryngology, Surgery for Deafness, Rhinoplastic Surgery, Bronchoscopy and Esophagoscopy.

The Courtesy Staff also Includes Dental and Oral Surgery.
Complete Laboratory and X-Ray Equipment. Physicians and Graduate Nurses in Constant Attendance.

For further information, address:

Business Manager, Box 1789, Roanoke, Virginia 24008

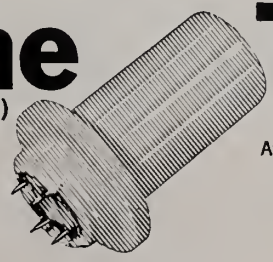
what time is it?

For the past
two years
there's been
one new case
of active tuberculosis
reported for every
four thousand
of U.S. population.

it's time to tine.

Tuberculin, Tine Test

(Rosenthal) Lederle



Available in 5's and 25's.
Order now
from your pharmacist
or your Lederle
representative.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

414-6—4046R

STUART CIRCLE HOSPITAL

413-21 Stuart Circle RICHMOND, VIRGINIA

Medicine:
Manfred Call, III, M.D.
Alexander G. Brown, III, M.D.
John D. Call, M.D.
Wyndham B. Blanton, Jr., M.D.
Frank M. Blanton, M.D.
William W. Martin, Jr., M.D.

Obstetrics and Gynecology:
Wm. Durwood Suggs, M.D.
Spotswood Robins, M.D.
David C. Forrest, M.D.
Joseph C. Parker, M.D.
William M. Oppenhimer, M.D.

Orthopedics:
Beverley B. Clary, M.D.
James B. Dalton, Jr., M.D.
Franklin P. Watkins, M.D.

Pediatrics:
Edward G. Davis, Jr., M.D.
Thomas P. Overton, M.D.
Edward J. Wiley, M.D.

Ophthalmology, Otolaryngology:
J. Warren Montague, M.D.

Anesthesiology:
William B. Moncure, M.D.
Heth Owen, Jr., M.D.

Surgery:
A. Stephens Graham, M.D.
Charles R. Robins, Jr., M.D.
Carrington Williams, M.D.
Richard A. Michaux, M.D.
Carrington Williams, Jr., M.D.
Armistead M. Williams, M.D.

Urological Surgery:
Frank Pole, M.D.
Harry S. Rowland, Jr., M.D.

Oral Surgery:
Guy R. Harrison, D.D.S.

Physical Therapy
Jacquelyn F. Pearman, R.P.T.

Plastic Surgery:
Hunter S. Jackson, M.D.

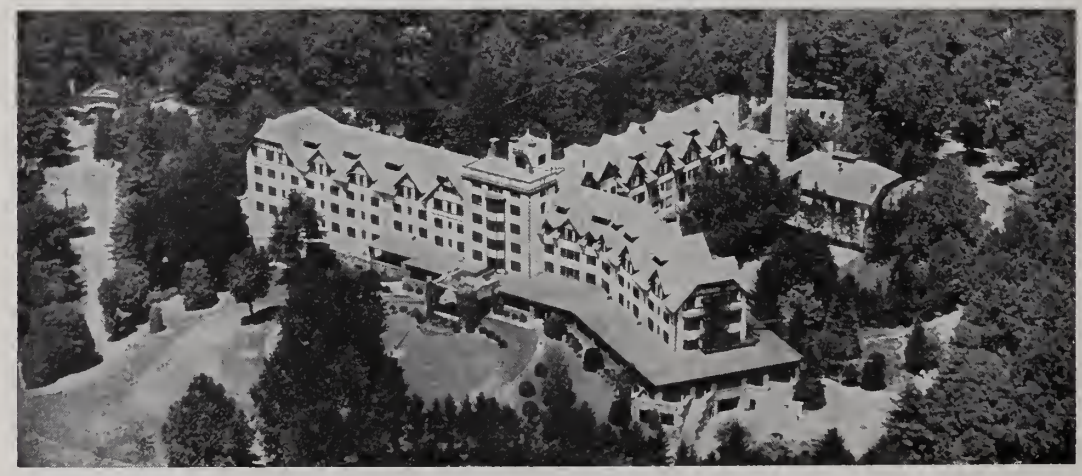
Roentgenology and Radiology:
Hunter B. Frischkorn, Jr., M.D.
William C. Barr, M.D.
James W. Proffitt, M.D.

Pathology:
James B. Roberts, M.D.

Director:
Charles C. Hough

Appalachian Hall • Asheville, North Carolina

Established 1916



An Institution for the diagnosis and treatment of Psychiatric and Neurological illnesses, rest, convalescence, drug and alcohol habituation.

Insulin Coma, Electroshock and Psychotherapy are employed. The Institution is equipped with complete laboratory facilities including electroencephalography and X-ray.

Appalachian Hall is located in Asheville, North Carolina, a resort town, which justly claims an all around climate for health and comfort. There are ample facilities for classification of patients, rooms single or en suite.

Wm. Ray Griffin, Jr., M.D.
Robert A. Griffin, Jr., M.D.
Mark A. Griffin, Sr., M.D.
Mark A. Griffin, Jr., M.D.

For rates and further information write APPALACHIAN HALL, Asheville, N. C.

CLAY'S REST HOME

801 LUNENBURG AVENUE
BLACKSTONE, VIRGINIA

Telephone 292-4497 Area Code 703

A NEW CONCEPT IN RETIRED LIVING FOR OUR SENIOR CITIZENS

Clay's Rest Home has been designed for the retired who wish to be relieved of housekeeping and for those who desire companionship with people their own age.

. . . QUIETLY LOCATED
. . . HOME LIKE ATMOSPHERE
. . . RECREATION FACILITIES
. . . COMFORTABLE SURROUNDINGS
. . . ADJACENT BUSINESS AREA

State approved. Physicians on call 24-hours daily.

JOHNSTON-WILLIS HOSPITAL

RICHMOND, VIRGINIA

A MODERN GENERAL HOSPITAL
PRIVATELY MANAGED
SITUATED IN THE QUIET OF THE
WEST END RESIDENTIAL SECTION

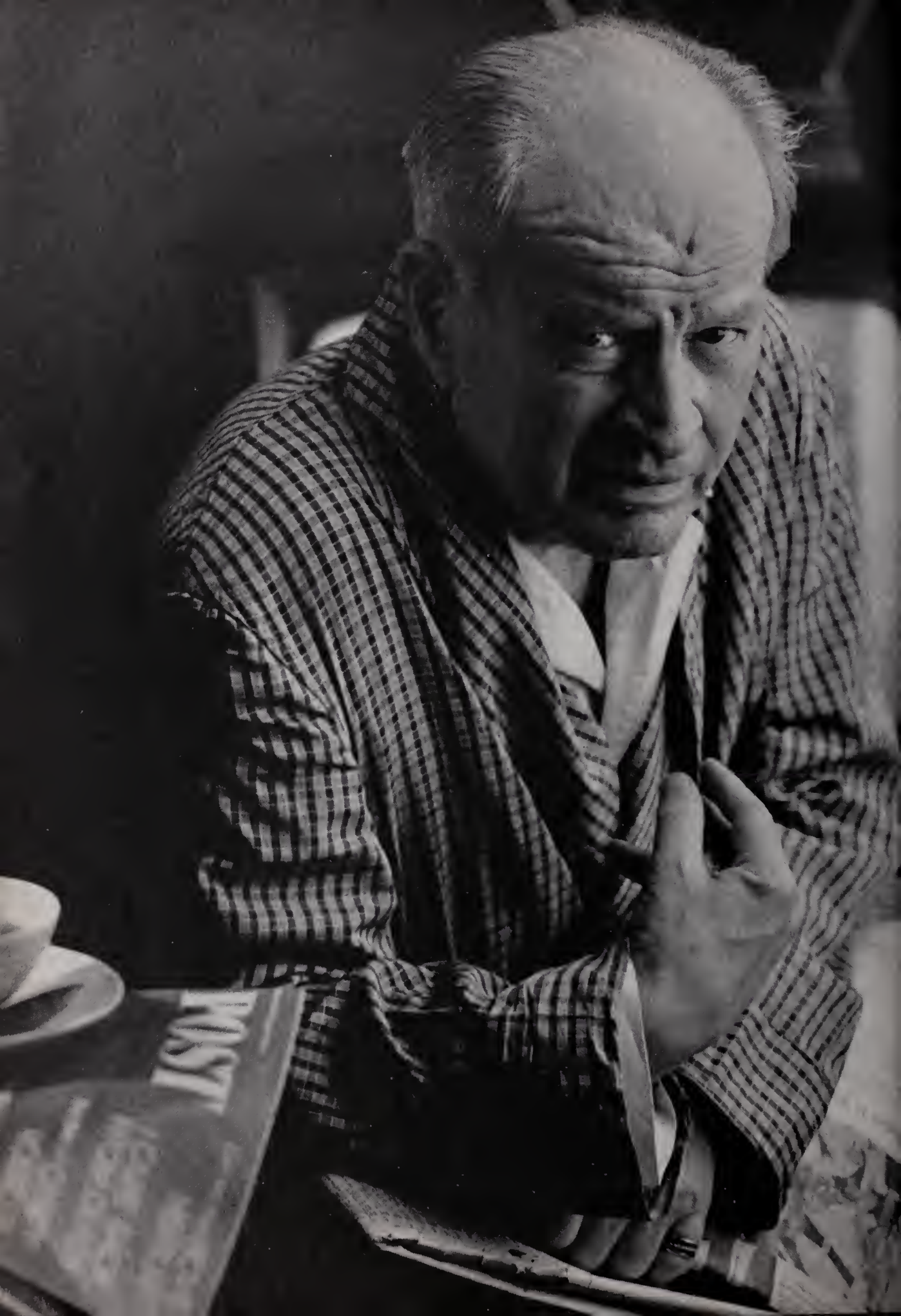
Riverside Convalescent Home

Sophia & Fauquier Sts.
Fredericksburg, Virginia

Large, air-conditioned, Firesafe building with hospital-like facilities but in a cheerful home-like atmosphere. Twenty-four hour medical supervision and nursing care.

Recreational areas—Occupational and Physiotherapy. Excellent food service. Lovely Riverside Park. Inspection invited. All types of accommodations available.

Rates:
$50.00 to $80.00 per week



Posed by professional model

I'm supposed to get up and do things?

With my heart?

It's entirely natural—and may even be desirable—for the cardiovascular patient to be somewhat anxious about himself.

But when anxiety leads to unreasonable self-imposed limitations and restrictions . . . when it aggravates cardiovascular symptoms . . . when it interferes with restful sleep, measures to help alleviate the anxiety are probably in order.

One measure, of course, is reassurance. Another, adjunctive measure, is EQUANIL (meprobamate).

Over a decade of experience has shown that EQUANIL (meprobamate) is generally well tolerated as well as effective. Side effects are usually limited to transient drowsiness; serious, therapy-interrupting side effects are rare.

Cautions: Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use may result in dependence or habituation in susceptible persons—as ex-addicts, alcoholics, severe psychoneurotics. After prolonged high dosage, drug should be withdrawn gradually to avoid possibly severe withdrawal reactions including epileptiform seizures. Side effects include drowsiness and, rarely, allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute non-thrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. Meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Warn patients of possible reduced alcohol tolerance. Should drowsiness, ataxia, or visual disturbances occur, dose should be reduced. If symptoms persist, patients should not operate vehicles or dangerous machinery. A few cases of leukopenia, usually transient, have been reported following prolonged dosage. Other blood dyscrasias—aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia—have occurred rarely, almost always in the presence of known toxic agents. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. Prescribe very cautiously for patients with suicidal tendencies. Suicidal attempts should be treated with immediate gastric lavage and appropriate supportive therapy.

Contraindications: History of sensitivity to meprobamate.

Composition: Tablets, 200 mg. and 400 mg. meprobamate. Coated Tablets, WYSEALS® EQUANIL (meprobamate) 400 mg. Continuous-Release Capsules, EQUANIL L-A (meprobamate) 400 mg.

American Hospital Formulary Service Category No. 28:16.08

A quality controlled product of
Wyeth Laboratories Philadelphia, Pa.

to help relieve anxiety and tension occurring alone or secondary to organic disease

Equanil®
(meprobamate)

Wyeth®
SERVICE TO MEDICINE

HIGHLAND HOSPITAL

ASHEVILLE, NORTH CAROLINA

FOUNDED 1904

A DIVISION OF THE DEPARTMENT OF PSYCHIATRY OF DUKE UNIVERSITY

Accredited by the Joint Commission on Accreditation and Certified for Medicare

Complete facilities for evaluation of and intensive treatment of psychiatric patients, including individual psychotherapy, group therapy, psychodrama, electro-convulsive therapy, Indoklon convulsive therapy, drugs, social service work with families, family therapy, and an extensive and well organized activities program, including occupational therapy, art therapy, athletic activities and games, recreational activities and outings. The treatment program of each patient is carefully supervised in order that the therapeutic needs of each patient may be realized.

Complete modern facilities with 85 acres of landscaped and wooded grounds in the City of Asheville.

Brochures and information on financial arrangements available

Contact: MRS. ELIZABETH HARKINS, ACSW, *Coordinator of Admissions*

or

CHARLES W. NEVILLE, JR., M.D.
Assistant Professor of Psychiatry and Medical Director

Area Code 704—253-2761

BAYBERRY PSYCHIATRIC HOSPITAL

HAMPTON, VIRGINIA

A private psychiatric hospital for the treatment of nervous and emotional disorders and the various problems of addiction for both white and colored—employing modern diagnostic and treatment procedures—electro-convulsive and insulin, individual and group psychotherapy, chemotherapy.

WENDELL J. PILE, M.D.
Medical Director

HOWARD L. COX, M.D. BASIL E. ROEBUCK, M.D.

CLINICAL PSYCHOLOGISTS

WILLIAM E. TYSON, Chief Psychologist

CHARLES T. PERKINS MILAN S. WILSON

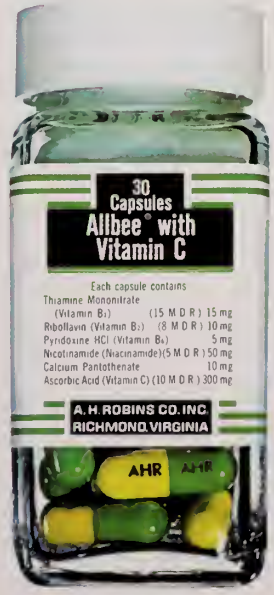
BROCHURE OF LITERATURE SENT ON REQUEST
Write or call:

BAYBERRY PSYCHIATRIC HOSPITAL

530 East Queen Street
Hampton, Virginia 23369
Telephone: PARK 2-2504

Two ways to give your patients a month's therapeutic supply of vitamin C:

118 grapefruit or 30 Allbee® with C



Your patient would have to eat 118 medium-sized grapefruit (almost 4 a day!) to get as much vitamin C as is provided in just one bottle of 30 Allbee with C capsules (taken one capsule daily). In addition, each capsule supplies full therapeutic amounts of the B-complex vitamins.

Your patients can purchase Allbee with C capsules in the convenient bottle of thirty—a month's supply at a very reasonable price. Also the economy size of 100. Available at pharmacies everywhere on your prescription or recommendation.

A·H·ROBINS

A. H. Robins Company, Richmond, Virginia

the spasm reactors in your practice deserve

"the Donnatal® Effect"

	each tablet, capsule or 5 cc. of elixir (23% alcohol)	each Extentab®
hyoscyamine sulfate	0.1037 mg.	0.3111 mg.
atropine sulfate	0.0194 mg.	0.0582 mg.
hysocine hydrobromide	0.0065 mg.	0.0195 mg.
phenobarbital	(¼ gr.) 16.2 mg.	(¾ gr.) 48.6 mg.

(Warning: may be habit forming)

A. H. ROBINS COMPANY, RICHMOND, VIRGINIA 23220

Brief summary. Blurring of vision, dry mouth, difficult urination, and flushing or dryness of the skin may occur on higher dosage levels, rarely on usual dosage. Administer with caution to patients with incipient glaucoma or urinary bladder neck obstruction. Contraindicated in acute glaucoma, advanced renal or hepatic disease or a hypersensitivity to any of the ingredients.

A·H·ROBINS

ST. LUKE'S HOSPITAL McGUIRE CLINIC

1000 West Grace Street
Richmond, Virginia

Internal Medicine
JOHN P. LYNCH, M.D.
WM. H. HARRIS, JR., M.D.
JOHN B. CATLETT, M.D.
ROBERT W. BEDINGER, M.D
ALICE VIRGINIA THORPE, M.D.
DAVID L. LITCHFIELD, M.D.

General Surgery and Gynecology
WEBSTER P. BARNES, M.D.
JOHN H. REED, JR., M.D.
JOSEPH W. COXE III, M.D.
H. FAIRFAX CONQUEST, M.D.
GILBERT H. BRYSON, M.D.

Neurology
RAYMOND A. ADAMS, M.D.

Orthopedic Surgery
JAMES T. TUCKER, M.D.
BEVERLEY B. CLARY, M.D.
JAMES B. DALTON, JR., M.D.
EARNEST B. CARPENTER, M.D.
FRANKLIN P. WATKINS, M.D.
ERNEST L. CLEMENTS, M.D.

Urology
AUSTIN I. DODSON, JR., M.D.
J. EDWARD HILL, M.D.
WILLIAM T. STUART, JR., M.D.

Bronchoscopy
GEORGE AUSTIN WELCHONS, M.D

Radiology and Isotope Medicine
HENRY S. SPENCER, M.D.
DONALD E. SEIM, M.D.

Pathology
J. H. SCHERER, M.D.

Anesthesiology
HETH OWEN, JR., M.D.
WILLIAM B. MONCURE, M.D.
BEVERLY JONES, M.D.
BOYD H. MAY, M.D.

Administrator
WILLIAM D. GIBSON, M.H.A.
Secretary-Treasurer

ALL ROOMS AIR CONDITIONED
Free Parking for Patrons

Fourth Decade of Nursing

MRS. PLYLER'S NURSING HOME

KATE E. PLYLER (1876-1947) MARY I. CLARK (1884-1955) GENE CLARK REGIRER (1912-1962)

A private nursing home dedicated to the care of chronic, convalescent and aged

MRS. EDNA SHEPHERD TARCEN, Superintendent
1615 Grove Avenue, Richmond, Virginia, Telephone EL 9-3221
Fire Protection by Grinnell Sprinkler System

Richmond Eye Hospital
Richmond Ear, Nose and Throat Hospital

408 North 12th Street
Richmond, Virginia 23219

An Independent Specialized Non-Profit Community Hospital Dedicated to the Treatment and Cure of Eye, Ear, Nose and Throat Diseases and Disorders.

Professional care offered a limited number of indigent patients.

Direct inquiries to John H. Tobin, Jr., Administrator

408 N. 12th Street, Richmond, Virginia

TUCKER HOSPITAL Inc.

212 West Franklin Street

Richmond, Virginia

A private hospital for diagnosis and treatment of psychiatric and neurological disorders. Hospital and out-patient services.

James Asa Shield, M.D.
George S. Fultz, Jr., M.D.
Catherine T. Ray, M.D.
Weir M. Tucker, M.D.
Edward W. Gamble, III, M.D.
Gerald W. Atkinson, M.D.

DOCTORS:

ADMINISTRATORS:

Terrace Hill Nursing Home Is a Fully Accredited Extended Care Facility

Within 9 minutes from any local hospital

- **Post Hospital Nursing Care**
- **Round the Clock Skilled Care**
- **Sprinkler System, Fire Protected**
- **R.N. Supervision** • **Activities**
- **Trained Dietitian** • **Male Orderlies**

State and City Health Depts. Approved

View Showing Park-like Grounds of Terrace Hill Nursing Home

In compliance with the Civil Rights Act of 1964

Patients under care of their own Physicians

Neal L. Maslan, M.P.H.

Administrator

"Understanding Care"

Member: + Va. Nursing Home and American Nursing Home Assns.

TERRACE HILL NURSING HOME, INC.

2112 MONTEIRO AVENUE RICHMOND, VIRGINIA 23222 643-2777

Member

ST. ELIZABETH'S HOSPITAL

617 West Grace Street

Richmond, Virginia

Established 1912

Guy W. Horsley, M.D.
General Surgery and Gynecology

James T. Gianoulis, M.D.
General Surgery and Gynecology

James W. Pancoast, M.D.
General Surgery and Gynecology

Leroy Smith, M.D.
Plastic Surgery

Hunter B. Frischkorn, Jr.
Radiology

Austin I. Dodson, Jr., M.D.
Urology

J. Edward Hill, M.D.
Urology

William T. Stuart, M.D.
Urology

Levi W. Hulley, M.D.
General Medicine

Clarry C. Trice, M.D.
General Medicine

Douglas G. Chapman, M.D.
Internal Medicine

George W. Reese, Jr., M.D.
Internal Medicine

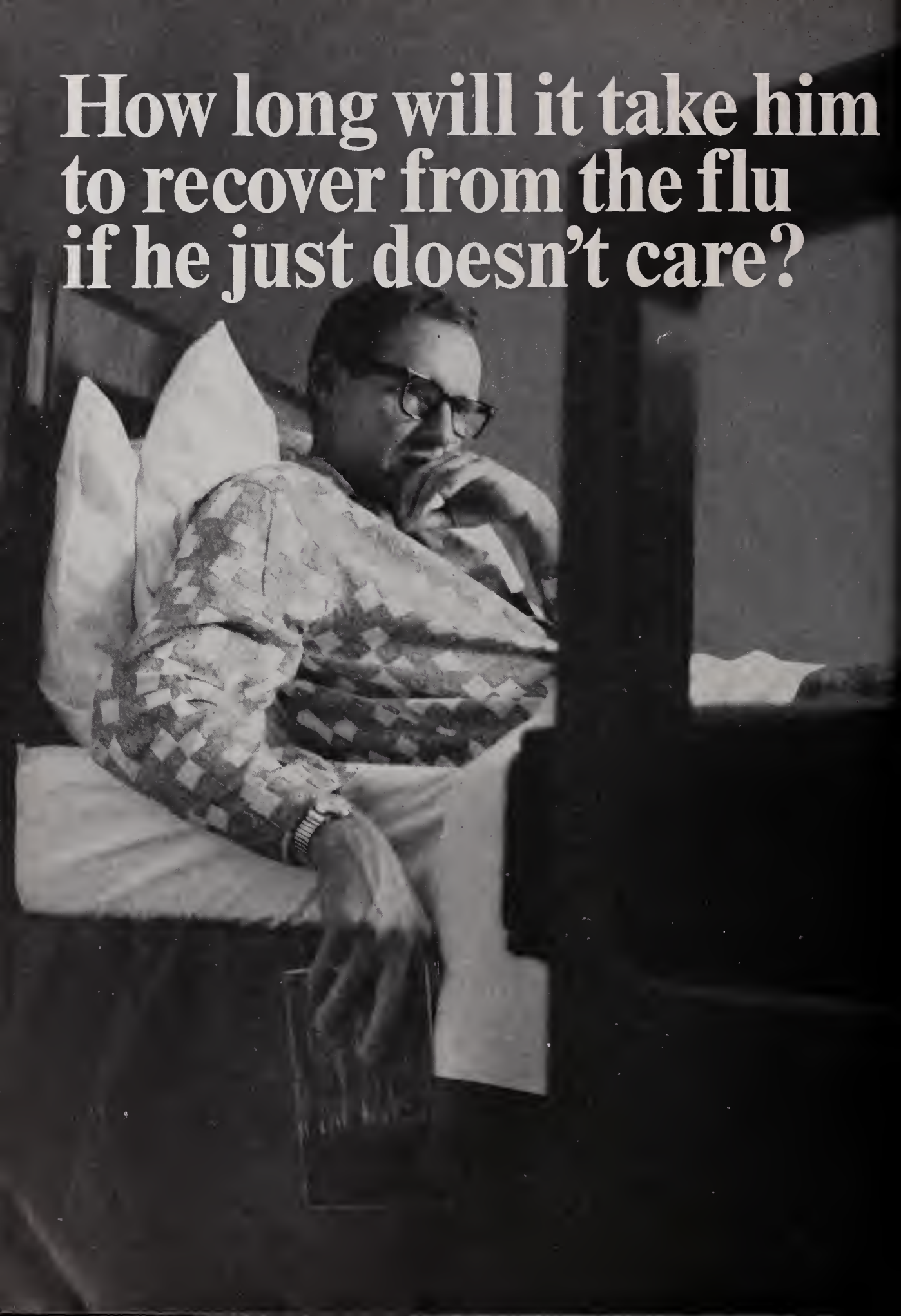
Elmer S. Robertson, M.D.
Internal Medicine

Charles A. Pollock, Jr., M.D.
Internal Medicine

William R. Draper, *Administrator*

For the Care of Surgical, Gynecological, Urological and Medical Cases.

How long will it take him to recover from the flu if he just doesn't care?



Does he really care? Is he alert, encouraged, positive and optimistic about getting out of bed and back to work soon?

Or is he giving in to the depressing impact of confinement?

When functional fatigue complicates convalescence, Alertonic can help...

Pleasant-tasting Alertonic is pipradrol hydrochloride —an effective cerebral stimulant whose gentle analeptic action helps counteract the apathy and inertia that so often delay convalescence—together with an excellent vitamin and mineral formula, in a satisfying 15% alcohol vehicle.

Nothing fosters confidence and a sense of well-being better than your own personal warmth, understanding and encouragement together with Alertonic to help insure prompt response.

Adequate dosage is important: Prescribe Alertonic—one tablespoonful t.i.d., 30 minutes before meals...tastes best chilled.

And for your patient's sake, prescribe Alertonic in the convenient, economical one-pint bottle.

Alertonic®

Available Only On Prescription

Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%; pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B_1) (10 MDR*), 10 mg.; riboflavin (vitamin B_2) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B_6), 1 mg.; niacinamide (5 MDR), 50 mg.; choline,† 100 mg.; inositol,† 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

*Multiple of adult Minimum Daily Requirement supplied.
†The need for these substances in human nutrition has not been established.

Indications: 1. Functional fatigue such as that often associated with: a depressing life experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

Contraindications: As with other drugs with CNS stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive compulsive states.

Side effects: Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

Dosage: Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

Merrell

THE WM. S. MERRELL COMPANY
Division of Richardson-Merrell Inc.
Cincinnati, Ohio 45215

6-7907

Norinyl® tablets

(norethindrone 2 mg. c̄ mestranol 0.1 mg.)

for multiple contraceptive action that has produced a record of unexcelled effectiveness

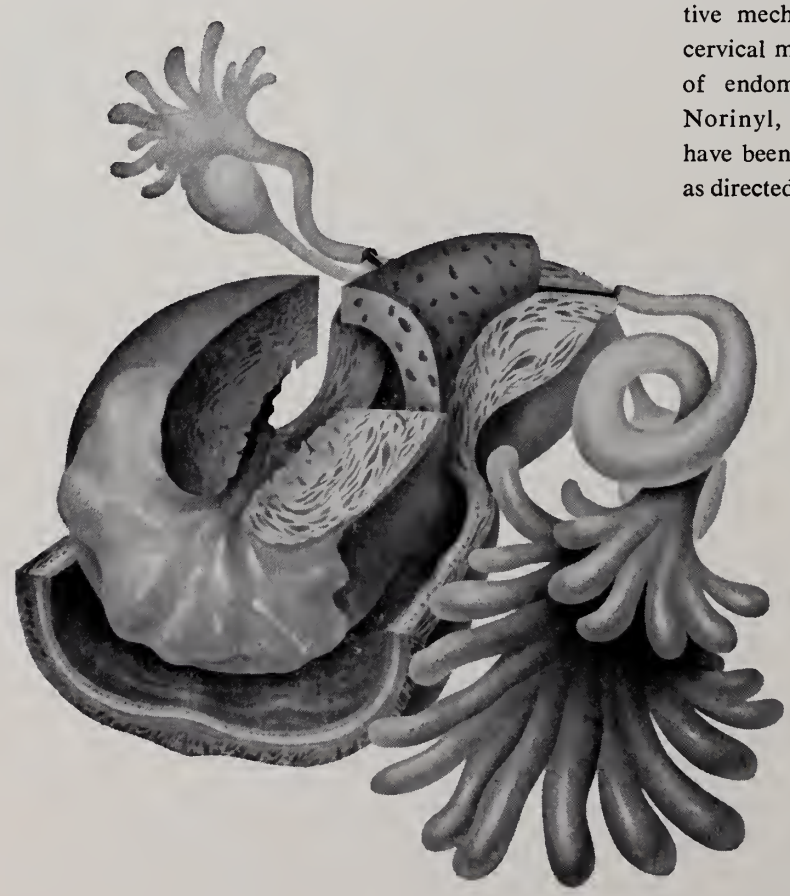
inhibition of ovulation by means of 2 time-proved hormonal agents

production of a cervical mucus hostile to sperm motility and vitality

creation of an endometrium unreceptive to egg implantation

no unplanned pregnancies

Norinyl provides multiple action for maximum assurance of success. It does not depend on ovulation inhibition alone for contraceptive effectiveness. The mechanism of action of combined hormonal therapy results in ovulation inhibition reinforced by other protective mechanisms, including a hostile cervical mucus[1-13] and an acceleration of endometrial changes.[1-3,7-16] With Norinyl, no unplanned pregnancies have been reported to date when used as directed.



plus important supportive benefits that help her through those critical early months of oral contraception

low incidence of side effects

Low incidence of BTB and spotting, nausea and amenorrhea tends to minimize side effect problems and increases patient cooperation.

no confusion about dosage

An unbreakable "confusionproof" package makes it easy to adhere to prescribed dosage schedule: individually sealed tablets numbered from 1 through 20 *plus* monthly calendar record enables patient to double-check dosage intake by day and corresponding tablet number.

Contraindications: Thrombophlebitis or pulmonary embolism (current or past). Existing evidence does not support a causal relationship between use of Norinyl and development of thromboembolism. While a study which was conducted does not resolve definitively the possible etiologic relationship between progestational agents and intravascular clotting, it tends to confirm the findings of the Ad Hoc Advisory Committee appointed by the Food and Drug Administration to review this possibility. Cardiac, renal or hepatic dysfunction. Carcinoma of the breast or genital tract. Patients with a history of psychic depression should be carefully studied and the drug discontinued if depression recurs to marked degree. Patients with a history of cerebral vascular accident.

Warning: Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn.

Precautions: By May 1963, experience with norethindrone 2 mg.—mestranol 0.1 mg. had extended over 24 months. Through miscalculation, omission or error in taking the recommended dosage of Norinyl, pregnancy may result. If regular menses fail to appear and treatment schedule has not been adhered to, or if patient misses two menstrual periods, possibility of pregnancy should be resolved before resuming Norinyl. If pregnancy is established, Norinyl should be discontinued during period of gestation since virilization of the female fetus has been reported with oral use of progestational agents or estrogen. When lactation is desired, withhold Norinyl until nursing needs are established. Existing uterine fibroids may increase in size. In metabolic or endocrine disorders, careful clinical preevaluation is indicated. A few patients without evidence of hyperthyroidism had elevated serum protein-bound iodine levels, which in the light of present knowledge, does not necessarily imply hyperthyroidism. Protein-bound iodine increased following estrogen administration. Bromsulphalein retention has occurred in up to 25% of patients without evidence of hepatic dysfunction. Studies from 24-hour urine collections have shown an increase in aldosterone and 17-ketosteroids and decrease in 17-hydroxycorticoid levels. Thus, Norinyl should be discontinued prior to and during thyroid, liver or adrenal function tests. Because progestational agents may cause fluid retention, conditions such as epilepsy, migraine and asthma require careful observation. Thus far no deleterious effect on pituitary, ovarian or adrenal function has been noted; however, long-range possible effect on these and other organs must await more prolonged observation. Norinyl should be used with caution in patients with bone, renal or any disease involving calcium or phosphorus metabolism.

Side Effects: Intermenstrual bleeding; amenorrhea; symptoms resembling early pregnancy, such as nausea, breast engorgement or enlargement, chloasma and minor degree of fluid retention (if these should occur and patient has not strictly adhered to medication plan, she should be tested for pregnancy); weight gain; subjective complaints such as headache, dizziness, nervousness, irritability; in a few patients libido was increased. In a total of 3,090 patients, 2.2% discontinued medication because of nausea.

NOTE: See sections on contraindications and precautions for possible side effects on other organ systems.

Dosage and Administration: One Norinyl tablet orally for 20 days, commencing on day 5 through and including day 24 of the menstrual cycle. (Day 1 is the first day of menstrual bleeding.)

Availability: Dispensers of 20 and 60 tablets; bottles of 100.

References: 1. Council on Drugs. JAMA 187:664 (Feb. 29) 1964. 2. Bryans, F. E.: Canad Med Ass J 92:287 (Feb. 6) 1965. 3. Goldzieher, J. W.: Med Clin N Amer 48:529 (Mar.) 1964. 4. Cohen, M. R.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965. 5. Hammond, O. O.: Ibid. 6. Rice-Wray, E., Goldzieher, J. W., and Aranda-Rosell, A.: Fert Ster 14:402 (Jul.-Aug.) 1963. 7. Goldzieher, J. W., Moses, L. E., and Ellis, L. T.: JAMA 180:359 (May 5) 1962. 8. Kempers, R. O.: GP 29:88 (Jan.) 1964. 9. Tyler, E. T.: JAMA 187:562 (Feb. 22) 1964. 10. Rube, H. W., Martinez-Manautou, J., and Maqueo-Topete, M.: Fert Ster 16:158 (Mar.-Apr.) 1965. 11. Flowers, C. E., Jr.: N Carolina Med J 25:139 (Apr.) 1964. 12. Goldzieher, J. W.: Appl Ther 6:503 (June) 1964. 13. The Control of Fertility. Report adopted by the Committee on Human Reproduction of the American Medical Association. JAMA 194:462 (Oct. 25) 1965. 14. Flowers, C. E., Jr.: JAMA 188:1115 (June 29) 1964. 15. Merritt, R. I.: Appl Ther 6:427 (May) 1964. 16. Newland, D. O.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965.

norethindrone—an original steroid from
SYNTEX
LABORATORIES INC PALO ALTO, CALIF

Norinyl tablets

(norethindrone 2 mg. c̄ mestranol 0.1 mg.)

for multiple contraceptive action

For the
Discriminating
Eye Physician

Depend on the Services of a Guild Optician

in
Lynchburg, Virginia

A. G. JEFFERSON

Ground Floor **Allied Arts Bldg.**

Exclusively Optical

Every Virginia Doctor Should Have These Books!

The history of medicine in the Old Commonwealth from Jamestown to the beginning of the present century is a work every doctor should be proud to own. Complete and intensely interesting.

Medicine In Virginia

By Wyndham B. Blanton, M.D.
Published under the Auspices of
The Medical Society of Virginia

Reduced price to members of The Medical Society of Virginia
18th Century—$2.00
19th Century—$2.00

Order through

The Medical Society of Virginia
4205 Dover Road
Richmond 21, Virginia

Where
Doctors
Get Away
From It All
Without Going Far

WHAT other Virginia resort offers so many amenities for so few guests? Never a crowd—only 57 rooms, for country-estate atmosphere. . . Old Mill Room for candlelight dining in actual historic grist mill . . . King James Room for select meetings, private parties . . . Choice rooms have fireplace, private balcony, hand-hewn beams, mountain view, handcrafted furnishings.

New challenging short golf course opening April 1967 . . . All weather tennis courts . . . Lighted putting green . . . Pool . . . Two lakes for fishing . . . Riding, 18-hole golf arranged . . . Footpaths for strolling . . . Sauna . . . Private club (short memberships) on premises.

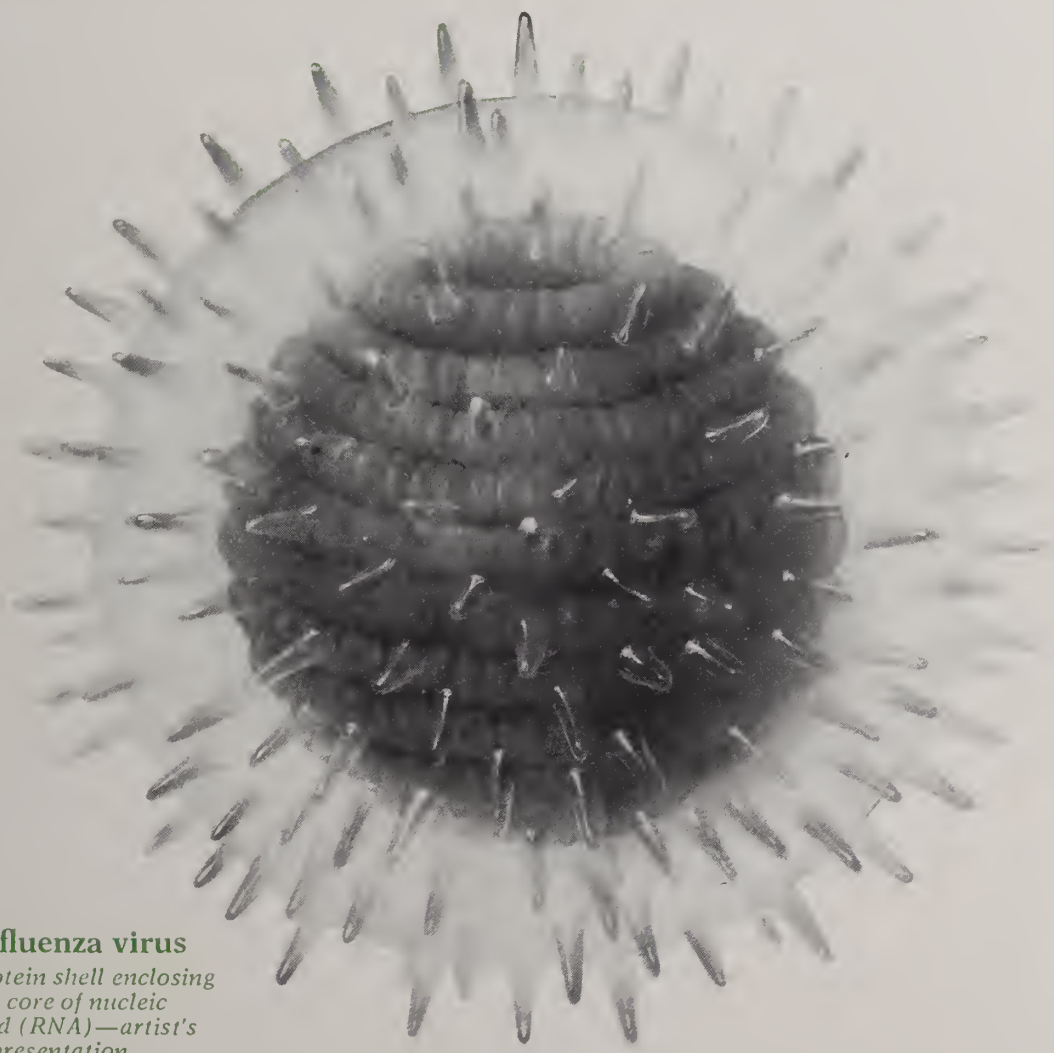
THE BOAR'S HEAD INN
CHARLOTTESVILLE, VIRGINIA
For reservations, brochure, phone 296-2181

New from Du Pont

Symmetrel®

(Amantadine HCl)

The first oral chemical virostat for the prevention of influenza A_2



Influenza virus
Protein shell enclosing the core of nucleic acid (RNA)—artist's representation

The incidence of influenza A_2. In this country, where influenza is one of the leading causes of morbidity, influenza A_2 (Asian) continues to be a serious medical problem. In 1957 influenza A_2 was responsible for approximately 40,000 excess deaths in a three-month period. Since that year the most prevalent influenza virus has been A_2 (Asian).

What is Symmetrel®? "Symmetrel" (amantadine HCl) is a new synthetic chemical which acts as a molecular barrier to virus penetration. It provides for the first time specific oral medication for the prevention of respiratory infections caused by influenza A_2 (Asian) viruses—an entirely new approach in preventive medicine.

For prescribing information, see last page of this presentation

What Symmetrel® (amantadine HCl) means to you

...the first and only oral chemical agent to prevent influenza A_2 (Asian).

...not a vaccine or antibiotic, but a new synthetic chemical unrelated to any other chemotherapeutic agent.

...unique mode of action: prevents virus penetration of the host cell without affecting vital cell functions.

...specifically active against all influenza A_2 viruses tested to date.

...not indicated for the prevention of influenzal or respiratory illness other than influenza A_2 or for the treatment of established disease.

...does not interfere with normal antibody response; acts in concert with pre-existing antibody.

What Symmetrel® means to your patient

...possible immediate influenza A_2 protection when taken following suspected contact.

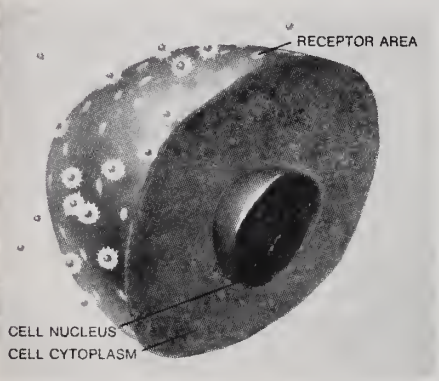
...may be particularly useful during outbreaks or epidemics and for high-risk patients in whom the occurrence of influenza A_2 is especially hazardous.

...a high degree of safety in clinical use.

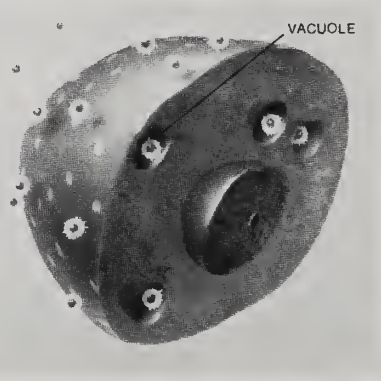
...simple once daily or b.i.d. dosage.

The mode of action of Symmetrel®

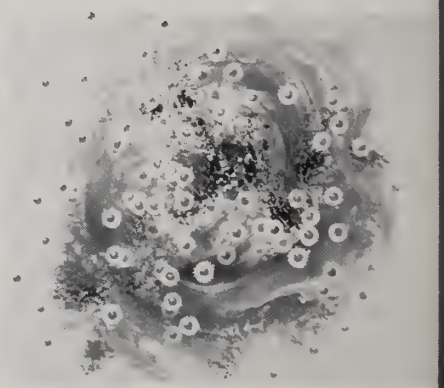
How the influenza virus invades and destroys the untreated cell



1 Viruses outside the cell attach themselves to specific cell receptor areas

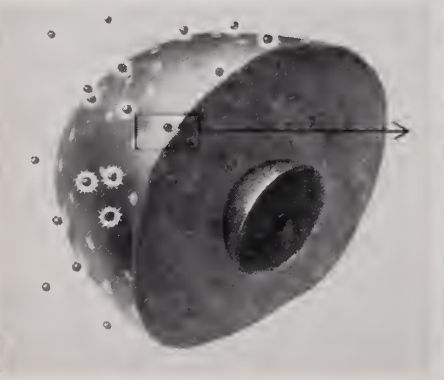


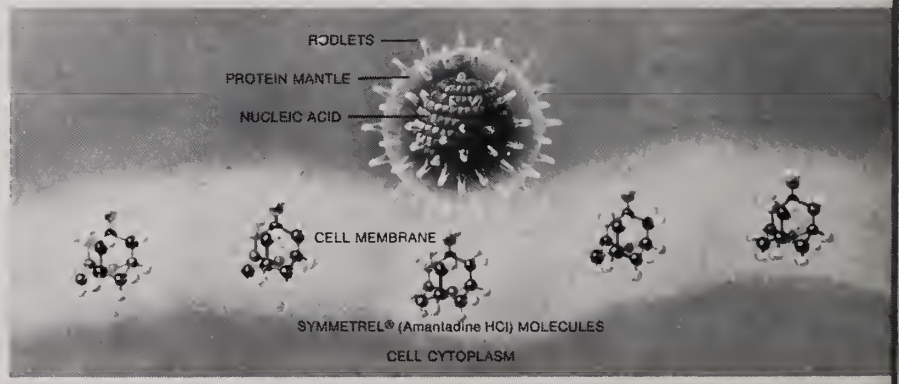
2 The virus is incorporated into a vacuole within the cell. From this vacuole the virus nucleic acid passes into the cell cytoplasm



3 The virus nucleic acid then directs the cell to produce both new virus nucleic acid and virus protein coat material which aggregate to form new virus particles. This process leads to the release of new virus particles and eventual destruction of the cell

How Symmetrel® (Amantadine HCl) prevents virus invasion[1]





Our current knowledge leads us to believe "Symmetrel" acts as a molecular barrier to influenza virus penetration. Shown here in a greatly enlarged section, "Symmetrel"—located at the cellular membrane—effectively prevents (blocks) virus penetration. Thus, "Symmetrel" does not directly destroy the virus particle but acting as a virostat prevents the cycle of virus penetration, virus replication, and cell destruction that is characteristic of virus invasion of animal cells (tissue). *Artist's conception based on current scientific knowledge.*

1. "Mode of Action of the Antiviral Activity of Amantadine in Tissue Culture", Hoffmann, C. E.; Neumayer, E. M.; Haff, R. F.; and Goldsby, R. A., Journal of Bacteriology *90*,623 (1965).

Safety of Symmetrel® Confirmed. When used as indicated, is generally well tolerated. No kidney, liver, bone marrow, or hematological disturbances have been observed.

Prescribing Information

Indications: "Symmetrel" is indicated for the prevention (prophylaxis) of influenza A_2 in persons of all age groups. Early use is recommended, preferably before or as soon as possible after actual or suspected contact with individuals suffering from influenza A_2. "Symmetrel" should especially be considered for high influenza-risk patient groups such as those suffering from chronic debilitating diseases and elderly persons.

Contraindications: Not indicated for the prevention of influenzal or respiratory illness other than influenza A_2 or for the treatment of established disease.

Warnings: Administration to patients with central nervous system disease, particularly geriatric patients with cerebral arteriosclerosis, and patients with a history of epilepsy or other "seizures," requires strict observation for possible untoward effects (see Adverse Reactions). Patients taking psychopharmacologic drugs, central nervous system stimulants, or alcoholic beverages should be observed for possible evidence of intolerance. Those patients who experience central nervous system effects or blurring of vision should be cautioned against driving or working in situations where alertness is important.

No teratogenic effects have been seen in reproductive studies in rats and rabbits. Studies in pregnant women have, however, not been done and use of this drug in women of childbearing age should be undertaken only after weighing the possible risks to the fetus against benefit to the pregnant patient. It should not be administered to nursing mothers since it is not known whether the drug is secreted in the milk.

Precautions: Ineffective against bacterial infections. Patients should be observed for idiosyncratic reactions as with all new drugs. Geriatric patients with pre-existing serious medical illnesses with mental or physical deterioration should be followed carefully medically while taking "Symmetrel." (See Adverse Reactions.)

Adverse Reactions: With higher than indicated doses manifestations of central nervous system effects such as nervousness, insomnia, dizziness, lightheadedness, drunken feeling, slurred speech, ataxia, inability to concentrate and some psychic reactions including depression and feelings of detachment were seen. Occasional blurred vision was reported at higher doses. Some of the milder and less pronounced symptoms above have been reported in a small number of patients taking the recommended dosage of 200 mg per day. Those were mostly transient and disappeared with continued administration of the drug. Some geriatric patients developed paranoid or hallucinatory behavior and became unmanageable while taking 200 mg daily. Medically unselected seriously deteriorated geriatric patients showed poor clinical tolerance after several weeks of daily dosing with 200 mg per day. One elderly patient with a history of prior cerebrovascular accident developed visual hallucinations and grand-mal convulsions while on drug at 800 mg per day. Some cases of dry mouth, gastrointestinal upset and skin rash and rarely, tremors, anorexia, pollakiuria, and nocturia have been also reported.

Safety: When used as indicated, is generally well tolerated. No kidney, liver, bone marrow, or hematological disturbances have been observed.

Dosage: *Adults:* Two 100 mg capsules (or 4 teaspoonfuls of syrup) as a single daily dose or the daily dose may be divided into one capsule of 100 mg (or 2 teaspoonfuls of syrup) twice a day.

Children: 1 yr.—9 yrs. of age: Calculate total daily dose on the basis of 2 mg to 4 mg per pound of body weight per day (but not to exceed 150 mg per day). Daily dose, given as the syrup, should be given in 2 or 3 equal portions.

9 yrs.—12 yrs. of age: Total daily dose 200 mg given as one capsule of 100 mg (or 2 teaspoonfuls of syrup) twice a day.

How Supplied: *Capsules:* Bottles of 100. Each red, gelatin capsule contains 100 mg amantadine HCl.
Syrup: Bottles of 1 pint. Each 5 ml (1 teaspoonful) contains 50 mg amantadine HCl.

DU PONT

Symmetrel®

(Amantadine HCl)

A molecular barrier to virus penetration

NEW EVIDENCE:

Pro-Banthīne® (propantheline bromide) **gives positive, selective benefits in gastrointestinal disorders.**

Intragastric photograph of pyloric region showing complete relaxation of pyloric sphincter with 6 mg. of Pro-Banthīne intravenously.

An important problem in managing gastrointestinal disorders has been the choice of an anticholinergic agent which will act positively and selectively on the gastrointestinal tract without extensive secondary effects.

Recent direct observations with the cinefibergastroscope and intragastric photography[1] visually confirm previous evidence that Pro-Banthīne does, indeed, possess such selective activity.

Barowsky and his associates demonstrated that a minimal dose of 6 to 8 mg. of Pro-Banthīne intravenously produced complete relaxation of gastric activity. Secondary effects were not significant.

By contrast, it required 0.8 mg. or double the usual dose of atropine intravenously to achieve similar gastric relaxation. Side effects of this dosage of the belladonna alkaloid were pronounced. Ventricular rates were as high as 150 per minute.

For positive, selective anticholinergic benefits Pro-Banthīne is indicated in patients with peptic ulcer, gastritis, irritable colon and other forms of gastrointestinal hypermotility.

Dosage: The maximal tolerated dosage is usually the most effective. For most *adult* patients this will be four to six 15-mg. tablets daily in divided doses. In severe conditions as many as two tablets four to six times daily may be required. Pro-Banthīne (brand of propantheline bromide) is supplied as tablets of 15 mg., as prolonged-acting tablets of 30 mg. and, for parenteral use, as serum-type ampuls of 30 mg. The parenteral dose should be adjusted to the patient's requirement and may be up to 30 mg. or more every six hours, intramuscularly or intravenously.

Contraindications: In glaucoma or severe cardiac disease.

Precautions: Since varying degrees of urinary hesitancy may occur in the elderly male with prostatic hypertrophy, this should be watched for in such patients until they have gained some experience with the drug.

Although never reported, theoretically a curare-like action may occur with possible loss of voluntary muscle control. Such patients should receive prompt and continuing artificial respiration until the drug effect has been exhausted.

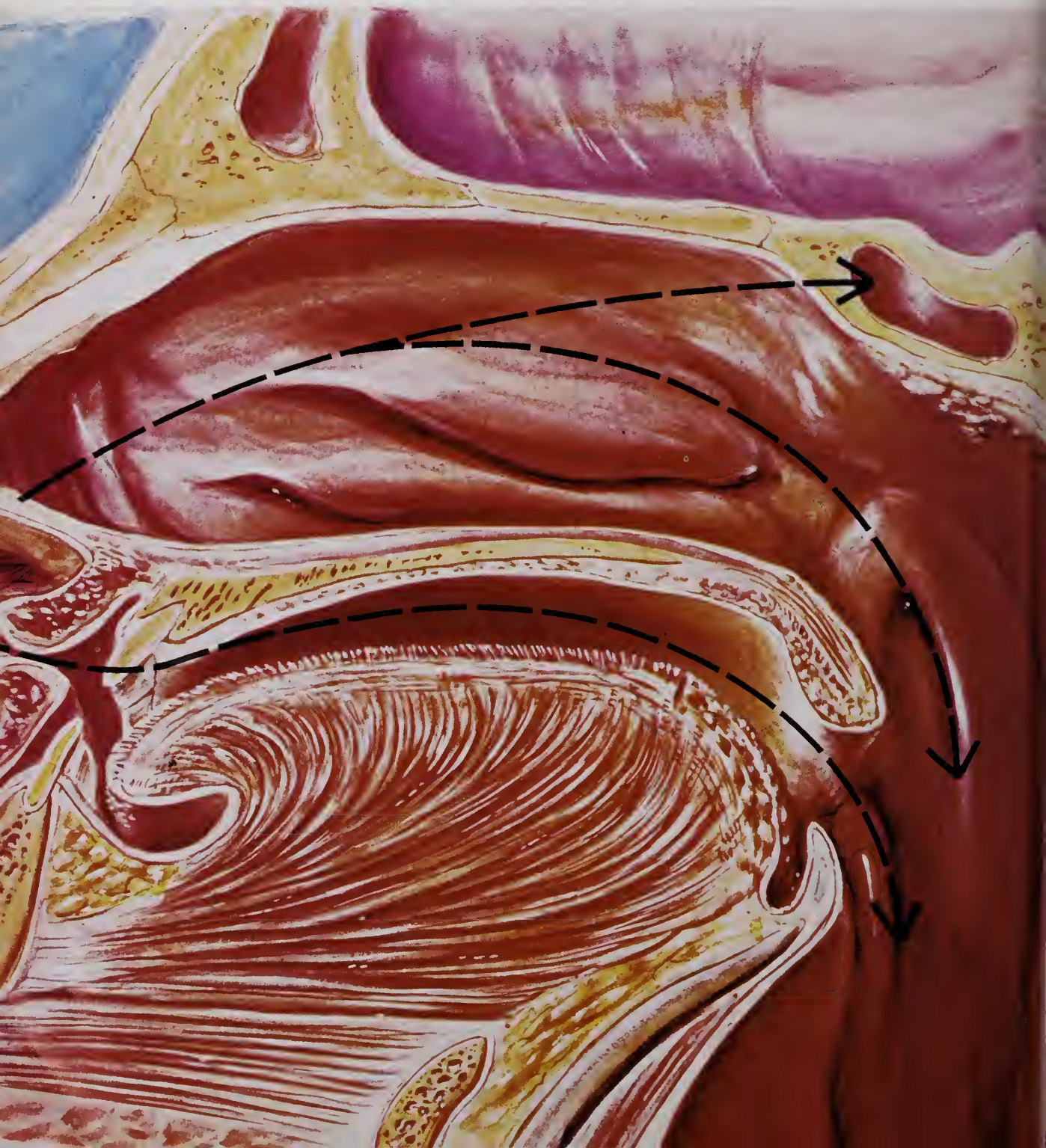
Side Effects The more common side effects, in order of incidence, are xerostomia, mydriasis, hesitancy of urination and gastric fullness.

1. Barowsky, H.; Greene, L.; Bennett, R., and Buganza, G.: The Effect of Anticholinergic Drugs on Gastric Motility and Pyloric Function, Scientific Exhibit, Annual Convention of the American Medical Association, Chicago, Illinois, June 26-30, 1966.

SEARLE *Research in the Service of Medicine*

When the battle with bacteria is in the upper respiratory tract

Routes of invasion through the oral and nasal passages to the nasopharyngeal mucosa: artist's depiction of sagittal section of head in perspective.



consider Gantanol (sulfamethoxazole)

To rapidly help the patient win against upper respiratory infections

When the respiratory tract has been invaded, an antibacterial that can assure effective yet generally uncomplicated therapy is your first line of defense...an agent such as Gantanol (sulfamethoxazole), the wide-spectrum antibacterial from Roche.

Gantanol (sulfamethoxazole) is effective against common susceptible upper respiratory pathogens, both gram-positive and gram-negative. Acting at foci of bacterial invasion, Gantanol (sulfamethoxazole) promptly helps control most infections, yet usually presents few problems to patients. Dosage is convenient and provides a measure of economy.

Before prescribing, please consult complete product information, a summary of which follows:

Contraindicated in sulfonamide-sensitive patients, pregnant females at term, premature infants, or newborn infants during first three months of life.

Warnings: Use only after critical appraisal in patients with liver damage, renal damage, urinary obstruction or blood dyscrasias. If toxic or hypersensitivity reactions or blood dyscrasias occur, discontinue therapy. In intermittent or prolonged therapy, blood counts and liver and kidney function tests should be performed.

Precautions: Observe usual sulfonamide therapy precautions, including maintenance of an adequate fluid intake. Use with caution in patients with histories of allergies and/or asthma. Patients with impaired renal function should be followed closely since renal impairment may cause excessive drug accumulation. Occasional failures may occur due to resistant microorganisms. Not effective in virus or rickettsial infections.

Adverse reactions: Headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, Stevens-Johnson syndrome, injection of the conjunctiva and sclera, petechiae, purpura, hematuria or crystalluria may occur, in which case the dosage should be decreased or the drug withdrawn.

Dosage: Adults—4 tablets initially, then 2 tablets b.i.d. or t.i.d. depending upon severity of infection. Children—1 tablet/20 lbs initially, followed by ½ tablet/20 lbs b.i.d.

How supplied: Tablets, 0.5 Gm, bottles of 50.

Roche Laboratories, Division of Hoffmann-La Roche Inc., Nutley, N. J. 07110

When there are bacterial invaders in the upper respiratory tract

Gantanol®
(sulfamethoxazole)

ROCHE

"Yes, Doctor, the pain is gone."

■ Despite introduction of synthetic substitutes, efficacy of 'Empirin' Compound with Codeine remains unchallenged.

'Empirin'® Compound with Codeine Phosphate gr. ½ No. 3
Each tablet contains: Codeine Phosphate gr. ½ (Warning—May be habit forming), Phenacetin gr. 2½, Aspirin gr. 3½, Caffeine gr. ½.

Keeps the Promise of Pain Relief

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N. Y.

DIURESIS

MERCUHYDRIN®
(meralluride injection)

Twenty years ago the publication of "A System for the Routine Treatment of the Failing Heart"[1] established a schedule of diuretic therapy as a primary factor in the treatment of acute congestive failure. With emphasis upon daily injections of Mercuhydrin (meralluride injection) until dry weight was obtained, Gold, et al. achieved a 40% increase in improvement, in ⅓ the time, over other methods then current. Today, most medical texts continue to recommend parenteral mercurials in acute congestive failure when prompt diuresis is indicated.

Recently Modell[2] has stated: "The mercurial diuretics are the injectable diuretics of choice since they are the most potent as well as the most dependable. Their toxicity is not an important consideration either by comparison with other potent diuretics or in relation to the seriousness of the conditions in which they provide such excellent relief."

LAKESIDE

IN BRIEF

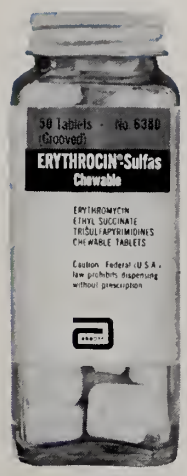
Mercuhydrin is indicated in edema of cardiac or hepatic origin and in the nephrotic syndrome; it is contraindicated in acute nephritis and in anuric or oliguric states. *The usual adult dose is one to two cc. daily or every other day until "dry weight" is obtained.* Sensitivity is rare but small initial doses are advised to minimize potential reactions; vertigo, fever, and rash have occurred. Overdosage may produce electrolyte depletion, muscle cramps, and G. I. reactions. Supplied: 1 cc. and 2 cc. ampuls in boxes of 12, 25 and 100; 10 cc. rubber capped, multiple-dose vials (intramuscular or subcutaneous use only) in boxes of 6 and 100.

1. Gold, Harry, *et al.: A System for the Routine Treatment of the Failing Heart,* The American Journal of Medicine, Vol. III, No. 6:665-692 (Dec.) 1956.
2. Modell, Walter: *Drugs of Choice 1966-1967,* p. 97, 1966.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

Perhaps there have been times when you wanted to prescribe erythromycin and triple sulfas for little patients. Now you can—with a choice of two new fine-tasting pediatric forms.

New–Two Pediatric Forms of Erythromycin and Triple Sulfas



ERYTHROCIN®-SULFAS Chewable (Erythromycin ethyl succinate-trisulfapyrimidines chewable tablet)

In clinical trials[1,2], this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

A clinical cure rate of 94.5%

ERYTHROCIN®-SULFAS Granules (Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated[1,2]—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

701358

A clinical cure rate of 97.7%

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.

ABBOTT

Brief Summary on next page

ERYTHROCIN®-SULFAS
Brief Summary

Contraindications: Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

Warnings: As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

Precautions, Side Effects: Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steriods, etc.) should be administered and the drug withdrawn.

Adverse Reactions: Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

Supplied: The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.

ABBOTT

701358

mudrane®

for

- EMPHYSEMA
- ASTHMA
- CHRONIC BRONCHITIS
- BRONCHIECTASIS

The fast-disintegrating uncoated tablet gives relief in 15 minutes

Each tablet contains:

Potassium Iodide	195 mg.
Aminophylline	130 mg.
Phenobarbital, Caution: May be habit forming	21 mg.
Ephedrine HCl	16 mg.

FEDERAL LAW PROHIBITS DISPENSING WITHOUT PRESCRIPTION

Precautions: Usual for aminophylline-ephedrine-phenobarbital. Iodides may cause nausea, long use may cause goiter. Discontinue if symptoms of iodism develop.

Iodide contraindications: tuberculosis, pregnancy.

DOSAGE

One tablet, with full glass of water, 3 or 4 times daily.

Dispensed in bottles of 100 and 1000 tablets.

MUDRANE GG—Formula, dosage and package identical to Mudrane—*except*—100 mg. glyceryl guaiacolate replaces the potassium iodide. The value of Mudrane cannot be enjoyed by a small group in which K.I. is contraindicated. Mudrane GG is prepared for this group.

MUDRANE GG ELIXIR—Four 5 cc teaspoonfuls is equivalent to one Mudrane GG tablet. Dosage adjusted to age and weight of child. Mudrane GG Elixir is for pediatric patients and those who think they cannot swallow tablets. Dispensed in pint and half gallon bottles.

WM. P. POYTHRESS & CO., INC.
RICHMOND, VIRGINIA 23217
Manufacturers of ethical pharmaceuticals since 1856

Team support is good medicine for crippled spirits

ONE OF A SERIES PUBLISHED REGULARLY BY PEOPLES DRUG STORES IN THE DAILY PAPERS TO KEEP THE PUBLIC BETTER INFORMED ON MATTERS OF HEALTH

Just because a guy has splintered bones doesn't mean he necessarily has shattered spirits. Being out of the action can be a bitter pill to swallow, all right, but team spirit makes it easier to take. It's a lucky break for this casualty, Doctor, that he has men like you on his team. And we're behind you all the way, supporting your tireless efforts to treat and heal . . . providing our own services whenever we can help. Peoples Drug Stores will serve you and your patients efficiently, courteously and professionally.

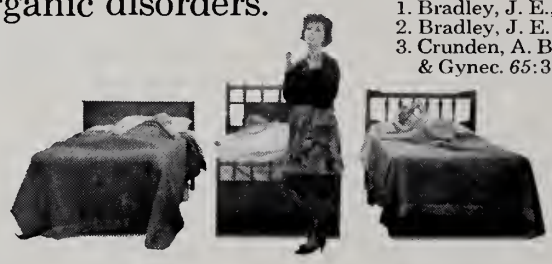
PEOPLES PRESCRIPTION DRUG STORES

ALL PEOPLES DRUG STORES FILLED OVER 7 MILLION PRESCRIPTIONS IN 1966. A MEASURE OF THE TRUST PEOPLE HAVE IN PEOPLES.

Togetherness....

...can be rough when epidemics of nausea and vomiting strike a family. Emetrol offers prompt, safe relief. It is free from toxicity[1] or side effects[2,3] and will not mask symptoms of serious organic disorders.

1. Bradley, J. E., *et al.*: J. Pediat. *38*:41 (Jan.) 1951.
2. Bradley, J. E.: Mod. Med. *20*:71 (Oct. 15) 1952.
3. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. *65*:311 (Feb.) 1953.



ROREER

WILLIAM H. RORER, INC.
Fort Washington, Pa.

Emetrol®
phosphorated carbohydrate solution
emesis control

INDEX TO ADVERTISERS

Abbott Laboratories 70-72
American Tobacco Co. 76
Ames 77
Appalachian Hall 46
Bayberry Psychiatric Hospital 50
Boar's Head Inn 60
Bristol 20-21
Burroughs Wellcome & Co. 68
Ciba 41
Clay's Rest Home 47
Dorsey 80
DuPont 61-63
Dyer, David A., Insurance 8-9
Eli Lilly and Co. 12-14, 24-26, 36, 78-79
Geigy 11, 28-29, 42-43
Gill Memorial 44
Highland Hospital 50
Hynson, Westcott & Dunning, Inc. 3
Jefferson, A. G. 60
Johnston-Willis Hospital 47
Jones and Vaughan 7
Lakeside Laboratories 10, 22, 69, 75
Lederle Laboratories ..... 35, 40, 45, Inside Back Cover
Medicine in Virginia 38, 60
Wm. S. Merrell Company 56-57
Parke, Davis & Company ..... Second Cover
Peoples Service Drug Stores 73
Pitman-Moore 32-33
Plyler's Nursing Home, Mrs. 53
Poythress, William P., & Co. 72
Richmond Eye Hospital—Richmond Ear, Nose and Throat Hospital 54
Riverside Convalescent Home 47
Robins, A. H. 23, 39, 51-52
Roche Laboratories ..... 66-67, Back Cover
Rorer, William H., Inc. 38, 74
Saint Albans Psychiatric Hospital 44
Searle, G. D. & Co. 64-65
Smith Kline & French 34
St. Elizabeth's Hospital 55
St. Luke's Hospital 53
Stuart Company 37
Stuart Circle Hospital 46
Syntex Laboratories 16-19, 58-59
Terrace Hill Nursing Home 55
Today's Health 38
Tucker Hospital, Inc. 54
Valentine Company, Inc. 28
Williams Printing Co. 6
Winthrop Laboratories 5
Wyeth Laboratories 30-31, 48-49
Wynn Pharmaceuticals 15, 27

DEPRESSION

NORPRAMIN®
(desipramine hydrochloride)

ANTIDEPRESSANT FOR RAPID IMPROVEMENT

At the recommended dosage level —initially, 150 mg. per day— gratifying remission of the signs and symptoms of depression typically begins in 2-5 days. Its specificity for depression, rapidity of action and usually mild side effects are significant reasons for prescribing NORPRAMIN (desipramine hydrochloride) in depression of any type . . . any degree of severity.

A few patients, sensitive to central nervous system stimulants may become restless as depression is lifted—in such cases dosage may be reduced or a tranquilizer added.

IN BRIEF:

INDICATIONS: In depression of any kind —neurotic and psychotic depressive reactions; manic-depressive or involutional psychotic reactions.

CONTRAINDICATIONS: Glaucoma, urethral or ureteral spasm, recent myocardial infarction, severe coronary heart disease, epilepsy. Should not be given within two weeks of treatment with a monoamine oxidase inhibitor.

RELATIVE CONTRAINDICATIONS: (1) Patients with a history of paroxysmal tachycardia. (2) Patients receiving concomitant therapy with thyroid, anticholinergics or sympathomimetics may experience potentiation of effects of these drugs. (3) Safety in pregnancy has not been established.

PRECAUTIONS: (1) Outpatient use of desipramine hydrochloride should not be substituted for hospitalization when risk of suicide or homicide is considered grave. (2) If serious adverse effects occur, reduce dosage or alter treatment. (3) In patients with manic-depressive illness a hypomanic state may be induced. (4) Discontinue drug as soon as possible prior to elective surgery.

ADVERSE EFFECTS: Side effects, usually mild, may include: dry mouth, constipation, dizziness, palpitation, delayed urination, "bad taste," sensory illusion, tinnitus, anxiety, agitation and stimulation, insomnia, sweating, drowsiness, headache, orthostatic hypotension, flushing, nausea, cramps, weakness, blurred vision and mydriasis, rash, tremor, allergy, agranulocytosis, altered liver function, ataxia, and extrapyramidal signs.

DOSAGE: Optimal results are obtained at a dosage of 50 mg., t.i.d. (150 mg./day). **SUPPLIED:** NORPRAMIN (desipramine hydrochloride) tablets of 25 mg.; bottles of 50, 500 and 1000; and tablets of 50 mg., in bottles of 30, 250 and 1000.

LAKESIDE

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

Tareyton...with the taste worth fighting for

America's largest-selling charcoal-tip cigarette

©The American Tobacco Company

LABSTIX

new from Ames
5 basic uro-analytical facts in 30 seconds

Labstix®

BRAND REAGENT STRIPS

...broadest urine screening possible from a single reagent strip

Urine test results with LABSTIX Reagent Strips can represent significant guides to differential diagnosis or therapy in many conditions. An unexpected "positive" may enable you to detect hidden pathology—long before more recognizable symptoms become evident. Negative results, which permit you to rule out abnormalities in a broad clinical range, can serve as baseline values for reference in future examinations. The 5 colorimetric test areas encompassed on LABSTIX Reagent Strips are:

pH—values are read numerically in the essential range of pH 5 to pH 9.

Protein—results are read either in the "plus" system or in mg. % in amounts approximating "trace," 30, 100, 300, and over 1000 mg. %.

Glucose—provides a "Yes-or-No" answer for urine "sugar spill."

Ketones—detects ketone bodies in urine—both acetoacetic acid and acetone. Reacts with as little as 5 to 10 mg. % of acetoacetic acid.

Occult Blood—specific test for intact red cells, hemoglobin or myoglobin. Results are read as negative, small, moderate or large amounts.

Now a Clear Reagent Strip of Firm Construction

...facilitates handling during testing procedure. Excellent color contrast made possible by the clear plastic strip, together with the clearly defined color charts provided, permits precise, reproducible colorimetric readings in all 5 test areas. A more definitive interpretation of uro-analytical facts is made possible.

Available: LABSTIX Reagent Strips, bottles of 100 (color charts are supplied with each bottle).

Ames Company, Inc., Elkhart, Indiana

AMES

08165

when he just can't sleep

Tuinal®

Sodium Amobarbital and
Sodium Secobarbital
(One-Half Sodium Amobarbital and One-Half Sodium Secobarbital)

Tuinal helps wakeful patients fall asleep fast, stay asleep all night.

Indications: Tuinal, comprised of equal parts of Seconal® Sodium (sodium secobarbital, Lilly) and Amytal® Sodium (sodium amobarbital, Lilly), is indicated for prompt and moderately long-acting hypnosis.

Contraindications: Barbiturates should not be administered to anyone with a history of porphyria, nor should they be given in the presence of uncontrolled pain, because excitement may result.

Warning: May be habit-forming.

Precautions: Tuinal should be used cautiously in patients with decreased liver function, since prolongation of effect may occur.

Adverse Reactions: Idiosyncrasy, such as excitement, hangover, or pain, may appear. Hypersensitivity reactions occur in some patients, especially in those with asthma, urticaria, or angioneurotic edema.

Dosage: 1½ to 3 grains at bedtime.

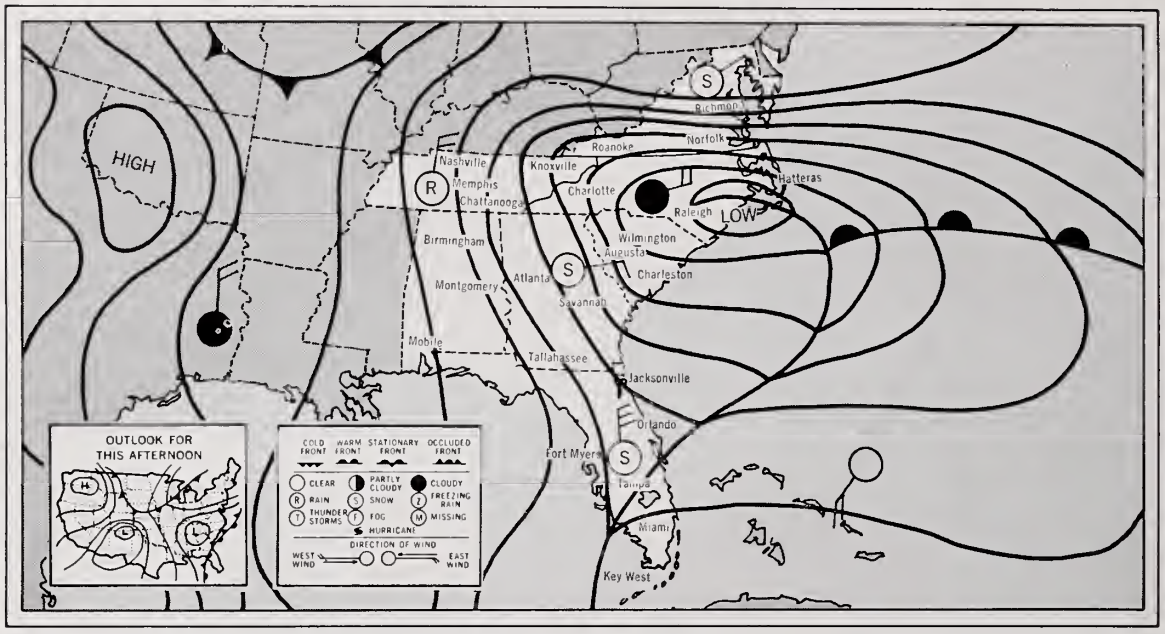
Supplied: ¾, 1½, and 3-grain Pulvules®.

Additional information available to physicians upon request.
Eli Lilly and Company • Indianapolis, Indiana 46206

Lilly

REGIONAL WEATHER FORECAST

Record Low Temperatures and Heavy Rain Followed by Cough, Stuffed and Runny Noses and Aches and Pains.



Tussagesic breaks up coughs, quickly clears stuffed and runny noses and relieves aches and pains. Provide coverage of the tough cold for up to 24 hours with just a single timed-release tablet dosed morning, midafternoon and at bedtime.

each

Tussagesic®

timed-release tablet contains:

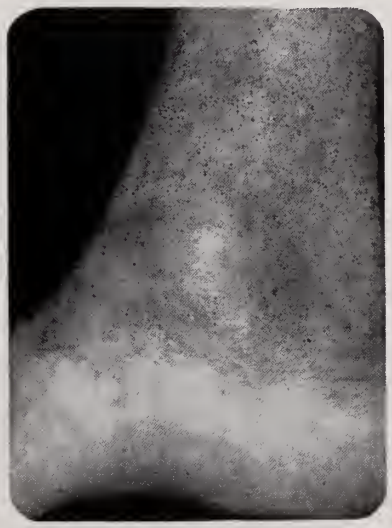
Triaminic® (phenylpropanolamine hydrochloride 25 mg., pheniramine maleate 12.5 mg., pyrilamine maleate 12.5 mg.)	50 mg.
Dextromethorphan hydrobromide	30 mg.
Terpin hydrate	180 mg.
Acetaminophen	325 mg.

Dosage: Adults—1 tablet, swallowed whole to preserve timed-release feature, in morning, midafternoon and at bedtime. *Side effects:* Occasional drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets. *Precautions:* The patient should be advised not to drive a car or operate dangerous machinery if drowsiness occurs. Use with caution in patients with hypertension, heart disease, diabetes or thyrotoxicosis.

DORSEY LABORATORIES • *a division of The Wander Company* • **LINCOLN, NEBRASKA**

Eczema of many years... controlled in two weeks

Before treatment



After treatment —
with ARISTOCORT Topical Ointment 0.1% for two weeks

ARISTOCORT® Triamcinolone Acetonide Topicals have proved exceptionally effective in the control of various forms of eczema: allergic, atopic, nummular, psoriatic, and mycotic.

In most cases responsive to topical ARISTOCORT, the 0.1% concentration is sufficiently potent. The 0.5% concentration provides enhanced topical activity for patients requiring additional potency for proper relief.

Administration and Dosage: Apply sparingly to the affected area 3 or 4 times daily. Some cases of psoriasis may be more effectively treated if the 0.1% Cream or Ointment is applied under an occlusive dressing.

Contraindications: Tuberculosis of the skin, herpes simplex, chicken pox and vaccinia.

Precautions and Side Effects: Do not use in the eyes or in the ear (if drum is perforated). A few individuals react unfavorably under certain conditions. If side effects are encountered, the drug should be discontinued and appropriate measures taken. Use on infected areas should be attended with caution and observation, bearing in mind the potential spreading of infection and the advisability of discontinuing therapy and/or initiating antibacterial measures. Generalized dermatological conditions may require systemic corticosteroid therapy. Steroid therapy, although responsible for remissions of dermatoses, especially of allergic origin cannot be expected to prevent recurrence. The use over extensive body areas, with or without occlusive nonpermeable dressings, may result in systemic absorption. Appropriate precautions should be taken. When occlusive nonpermeable dressings are used, miliaria, folliculitis and pyodermas will sometimes develop. Localized atrophy and striae have been reported with the use of steroids by the occlusive technique. When occlusive nonpermeable dressings are used, the physician should be aware of the hazards of suffocation and flammability. The safety of use on pregnant patients has not been firmly established. Thus, do not use in large amounts or for long periods of time on pregnant patients.

Available in 5 Gm. and 15 Gm. tubes and ½ lb. jars.

PHOTOGRAPHS COURTESY OF M. M. NIERMAN, M.D.

Aristocort® Topical Ointment 0.1% and Cream 0.1%, 0.5%
Triamcinolone Acetonide
Also available in foam form.

Lederle LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

ACE 6

LIBRIUM®
(chlordiazepoxide HCl)

WHEN ANXIETY IS A SIGNIFICANT COMPONENT OF THE CLINICAL PROFILE

Before prescribing, please consult complete product information, a summary of which follows:

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Warn against hazardous occupations requiring complete mental alertness. Use caution in administering to addiction-prone patients or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of child-bearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In elderly and debilitated and in children over five, limit dosage to smallest effective amount, increasing gradually as needed and tolerated. In general, concomitant use with other psychotropics is not recommended. Paradoxical reactions have been reported in psychiatric patients and hyperactive aggressive children. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically. Observe usual precautions in presence of impaired renal or hepatic function, impending depression and suicidal tendencies.

Adverse reactions: Drowsiness, ataxia and confusion may occur, especially in elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. Syncope occurs rarely. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis, jaundice and hepatic dysfunction) may develop occasionally, making periodic blood counts and liver-function tests advisable during protracted therapy. Individual maintenance dosages should be determined.

Dosage: Oral—Adults: Mild to moderate anxiety and tension, 5 or 10 mg t.i.d. or q.i.d.; severe states, 20 or 25 mg t.i.d. or q.i.d. Geriatric patients: 5 mg b.i.d. to q.i.d.

Supplied: Capsules, 5 mg, 10 mg and 25 mg—bottles of 50.

Roche Laboratories • Division of Hoffmann - La Roche Inc • Nutley, N.J. 07110

COPY

VIRGINIA MEDICAL MONTHLY

DISPLAY SHELVES

when it counts...
Chloromycetin®
(chloramphenicol)

PARKE-DAVIS

PARKE, DAVIS & COMPANY, Detroit, Michigan 48232

Complete information for usage
available to physicians upon request.

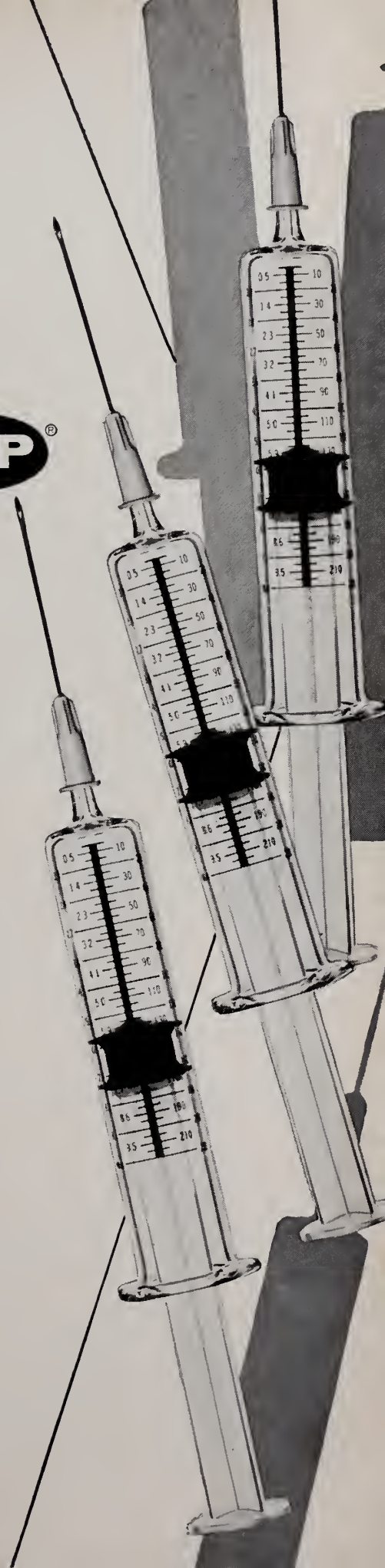
01366

BSP® DISPOSABLE UNIT

HW&D BRAND OF SODIUM SULFOBROMOPHTHALEIN INJECTION, USP

(50 mg. per ml.)

BSP®



BROMSULPHALEIN®

IN A COMPLETE,

STERILE,

DISPOSABLE,

& ECONOMICAL

PATIENT-UNIT.

BSP, one of the more valuable single laboratory procedures for determining hepatic function, is now packaged in a complete individual patient-unit.

Each BSP Disposable Unit contains a sterile syringe with the 5 mg./kg. BSP dosage schedule imprinted on the barrel, a sterile needle, alcohol swab and a 7.5 ml. or 10 ml. size ampule of terminally sterilized Bromsulphalein solution.

This all-inclusive disposable put-up lessens the chance of cross-infection and saves time and labor— the most costly commodities.

HYNSON, WESTCOTT & DUNNING, INC.

HW&D (BSP03)

BALTIMORE, MARYLAND 21201

VIRGINIA MEDICAL MONTHLY

(Founded by Landon B. Edwards, M.D., April, 1874)

PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF VIRGINIA

4205 DOVER ROAD, RICHMOND, VIRGINIA 23221

EDITORIAL BOARD

HARRY J. WARTHEN, M.D.
Chairman and Editor

H. LAMONT PUGH, M.D.
Vice Chairman

C. V. CIMMINO, M.D.

CHARLES E. DAVIS, JR., M.D.

J. SHELTON HORSLEY, III, M.D.

GORDON W. JONES, M.D.

WILLIAM H. KAUFMAN, M.D.

JOHN A. MARTIN, M.D.

ROBERT MITCHELL, JR., M.D.

JAMES M. MOSS, M.D.

W. T. THOMPSON, JR., M.D.

E. SPENCER WATKINS
Managing Editor
4205 Dover Road
Richmond, Virginia 23221

Annual Subscription—$2.00
Single Copies—25¢

TABLE OF CONTENTS

GUEST EDITORIAL
Regulating the Practice of the Healing Arts—*R. M. Cox, M.D.* 203

ORIGINAL ARTICLES
Some Radio-Diagnostic Notes on Pneumomediastinum, Pneumothorax, and Pneumopericardium—*Christian V. Cimmino, M.D.* 205
Acute Rhabdomyolysis with Myoglobinuria—*Bernard H. Miller, M.D.*, and *Jerome S. Gross, M.D.* 213
Carotid—Cavernous Fistula—*Kenneth D. Tuck, M.D.*, and *William Tice, M.D.* 219
Coronary Embolism with Myocardial Infarction and Septic Meningitis in a Young Female with Subacute Bacterial Endocarditis—*Douglas L. Ritch, M.D.*, and *Donald W. Drew, M.D.* 224
Secondary Oral and Laryngeal Syphilis—*Richard W. Dodd, M.D.* 229
The "Expanded" Rubella Syndrome—*Robert S. Brown, Ph.D.* 232

CLINICOPATHOLOGICAL CONFERENCE
Remitting Muscular Weakness, Later Cardiomegaly and Dyspnea 238

MENTAL HEALTH
Virginia Regionalizes Mental Hospital Admissions—*Julian C. Houseman* 246

DIAGNOSTIC LABORATORY MEDICINE
The Use of a Computer in the Hospital Laboratory—*Sam Vance, III, M.D.* 250

PUBLIC HEALTH
The Medicolegal Implications of the New Implied Consent Law and the "Driving Under the Influence" Statute in Virginia 253

THE MEDICAL SOCIETY OF VIRGINIA
Minutes of Council 256

THE PRESIDENT'S PAGE 261

EDITORIAL
Disease, War and History—*H. Lamont Pugh, M.D.* 262

NEWS 266

OBITUARY 268

The MONTHLY is not responsible for the opinions and statements of its contributors.
All advertisements are accepted subject to the approval of the Editorial Board.

Second Class Postage paid at Richmond, Virginia.

INDEX TO ADVERTISERS—Page 86

Diagnosis:

cystitis?
pyelonephritis?
pyelitis?
urethritis?
prostatitis?

in any case,
usually gram-negative*

Therapy:

two 500 mg. Caplets® q.i.d.
(initial adult dose)

NegGram®

Brand of

nalidixic acid

a specific anti-gram-negative

eradicates most urinary tract infections...

- Low incidence of untoward effects; no fungal overgrowth, crystalluria, ototoxic or nephrotoxic effects have been observed.
- "Excellent" or "good" response reported *in more than 2 out of 3* patients with either chronic or acute gram-negative infections.[1]

*As many as 9 out of 10 urinary tract infections are now caused by gram-negative organisms: E. coli, Klebsiella, Aerobacter, Proteus, Paracolon or Pseudomonas[2]... However, infections of the urethra and prostate caused by non-gonococcal gram-negative organisms are believed to be less prevalent.

ndications: Urinary tract infections caused by gram-negative and some gram-ositive organisms.

ide effects: Mainly mild, transient gastrointestinal disturbances; in ccasional instances, drowsiness, fatigue, pruritus, rash, urticaria, mild osinophilia, reversible subjective visual disturbances (overbrightness of ights, change in visual color perception, difficulty in focusing, decrease in isual acuity and double vision), and reversible photosensitivity reactions. larked overdosage, coupled with certain predisposing factors, has produced rief convulsions in a few patients.

recautions: As with all new drugs, blood and liver function tests are advis-ble during prolonged treatment. **Pending further experience, like most hemotherapeutic agents, this drug should not be given in the first trimester f pregnancy. It must be used cautiously in patients with liver disease or evere impairment of kidney function.** Because photosensitivity reactions have ccurred in a small number of cases, patients should be cautioned to avoid nnecessary exposure to direct sunlight while receiving NegGram, and if a eaction occurs, therapy should be discontinued. The dosage recommended or adults and children should not arbitrarily be doubled unless under the areful supervision of a physician. Bacterial resistance may develop.

/hen testing the urine for glucose in patients receiving NegGram, Clinistix® eagent Strips or Tes-Tape® should be used since other reagents give a alse-positive reaction.

osage: Adults: Four Gm. daily by mouth (2 Caplets® of 500 mg. four times aily) for one to two weeks. Thereafter, if prolonged treatment is indicated, he dosage may be reduced to two Gm. daily. Children may be given pproximately *25 mg. per pound* of body weight per day, administered in ivided doses. The dosage recommended above for adults and children hould not arbitrarily be doubled unless under the careful supervision of a hysician. Until further experience is gained, infants under 1 month hould not be treated with the drug.

ow supplied: Buff-colored, scored Caplets® of **500 mg. for adults,** conve-iently available in bottles of 56 (sufficient for one full week of therapy) and in ottles of 1000. **250 mg. for children,** available in bottles of 56 and 1000.

eferences: (1) Based on 23 clinical papers, 1512 cases. Bibliography on equest. (2) Bush, I. M., Orkin, L. A., and Winter, J. W., in Sylvester, J. C.: ntimicrobial Agents and Chemotherapy—1964, Ann Arbor, American ociety for Microbiology, 1965, p. 722.

Winthrop

Winthrop Laboratories, New York, N. Y. 10016

OFFICERS AND COUNCILORS OF THE MEDICAL SOCIETY OF VIRGINIA 1966-67

President—K. K. Wallace, M.D., Norfolk
President-Elect—Thomas W. Murrell, Jr., M.D., Richmond
Past-President—Alexander McCausland, M.D., Roanoke
Vice-Presidents—Hugh G. Stokes, M.D., Williamsburg
Francis H. McGovern, M.D., Danville
James M. Moss, M.D., Alexandria
Executive Secretary-Treasurer—Robert I. Howard, Richmond
Speaker of the House—W. Callier Salley, M.D., Norfolk
Vice-Speaker—Thomas S. Edwards, M.D., Charlottesville

COUNCILORS

F. Ashton Carmines, M.D., Newport News
William S. Hotchkiss, M.D., Norfolk
William R. Hill, M.D., Richmond
William Grossmann, M.D., Petersburg
W. Nash Thompson, M.D., Stuart
Harry B. Stone, M.D., Roanoke
Dennis P. McCarty, M.D., Front Royal
W. D. Liddle, M.D., Fredericksburg
W. W. Walton, M.D., Pulaski
Carl P. Parker, M.D., Falls Church

DELEGATES AND ALTERNATES TO THE AMERICAN MEDICAL ASSOCIATION

Delegates
1966-67
W. Linwood Ball, M.D., Richmond
Allen Barker, M.D., Roanoke

1967-68
W. Callier Salley, M.D., Norfolk

Alternates
1966-67
Alexander McCausland, M.D., Roanoke
Russell Buxton, M.D., Newport News

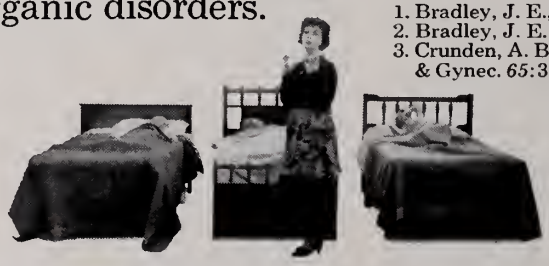
1967-68
Richard E. Palmer, M.D., Alexandria

(*Committees on pages* 10 *and* 14)

Togetherness....

...can be rough when epidemics of nausea and vomiting strike a family. Emetrol offers prompt, safe relief. It is free from toxicity[1] or side effects[2,3] and will not mask symptoms of serious organic disorders.

1. Bradley, J. E., *et al.*: J. Pediat. *38*:41 (Jan.) 1951.
2. Bradley, J. E.: Mod. Med. *20*:71 (Oct. 15) 1952.
3. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. *65*:311 (Feb.) 1953.



WILLIAM H. RORER, INC.
Fort Washington, Pa.

Emetrol®
phosphorated carbohydrate solution
emesis control

raldrate

(SYRUP OF CHLORAL HYDRATE)

A palatable chloral hydrate syrup
containing 10 grains in each teaspoonful.

J. and V.

JONES and VAUGHAN
Richmond 26, Virginia

DISABILITY INCOME INSURANCE

REASONS WHY

3

If you are disabled by sickness or accident and unable to work, your income stops.

Where do you get the money . . . .

. . **that you normally spend on food?**

. . **that you normally spend on shelter?**

. . **that it takes to maintain your office?**

There is no question how your income will continue if you enroll in the DISABILITY INCOME PLAN which is sponsored and recommended by THE MEDICAL SOCIETY OF VIRGINIA.

With these outstanding features:

✓ Benefits paid directly to you. You spend the money any way you want;

✓ This plan is yours until age 75; (Plan A or Plan B)

✓ Under Plan A—Benefits paid to age 65 for sickness—lifetime for accident.

As an example: If you were disabled at Age 50 it would be possible for you to collect $144,000.00 (15 years at $800.00 per month)—NOT 5 years. At younger ages the amount possible to collect is much greater.

Protect your earnings and ability to pay. Get complete details during the Open Enrollment Period—now in progress.

Mail to

David A. Dyer Insurance Agency
Medical Arts Building
Roanoke, Virginia 24011

Dave,

I have enough problems without having to worry about how I'll pay the rent, the grocery bills, or keep the office open if I'm disabled. Please rush to me, without obligation, all the facts on the Disability Income Program for physicians and surgeons, underwritten by Insurance Company of North America, Phila., Pa.

Name _____

Address _____
Street

_____
(City) (State) (Zip)

Underwritten by The Insurance Company of North America, Philadelphia, Pa.

when was your last check-up?

Have YOU failed to make certain that you're well protected from the high costs of accident and sickness? If so, your budget is in danger of shattering any day now.

THE MEDICAL SOCIETY OF VIRGINIA has just the thing to relieve your anxieties about possible severe financial loss from accident or sickness:

- **Professional OVERHEAD Expense** to pay those fixed office expenses for you while you can't practice . . . and keep your office open!
- **"Catastrophic" HOSPITAL-NURSE Expenses** to meet those unexpected high costs from serious accident or sickness disability!

Both Plans go to work immediately, protecting your budget with their LOW-COST, BROAD COVERAGE ingredients.

Call us today—collect. Find out why The Medical Society of Virginia has selected these sensible Insurance Plans as the best available to its Members. We'll send you more information. No obligation, of course.

(But, plenty of smart financial advice!)

ADMINISTRATOR: David A. Dyer
Medical Arts Building,
Roanoke, Virginia 24011
Phone: 344-5000

Both Plans underwritten by:

AMERICAN CASUALTY COMPANY
OF READING, PENNSYLVANIA • 19603

JOIN PROJECT WEIGHT WATCH.

You won't get any buttons. Or badges. Or decorations.

But you will get the satisfaction of making a weighty problem smaller.

Most people are eating too much for their own good. And when they diet, they're confused by fads, special foods, and starvation plans.

Of course, what they need are new eating habits.

That's what prompted preparation of research-tested scientific diets which are offered to you free. They're a realistic balance of the 4 food groups —meat, bread and cereals, fruits and vegetables and dairy foods. They're the kind of diets you'd write yourself, if you had the time.

Send for them. The shape of the nation is up to you.

Send me the Project Weight Watch kit of materials including diets.

Name

Position

Address

City

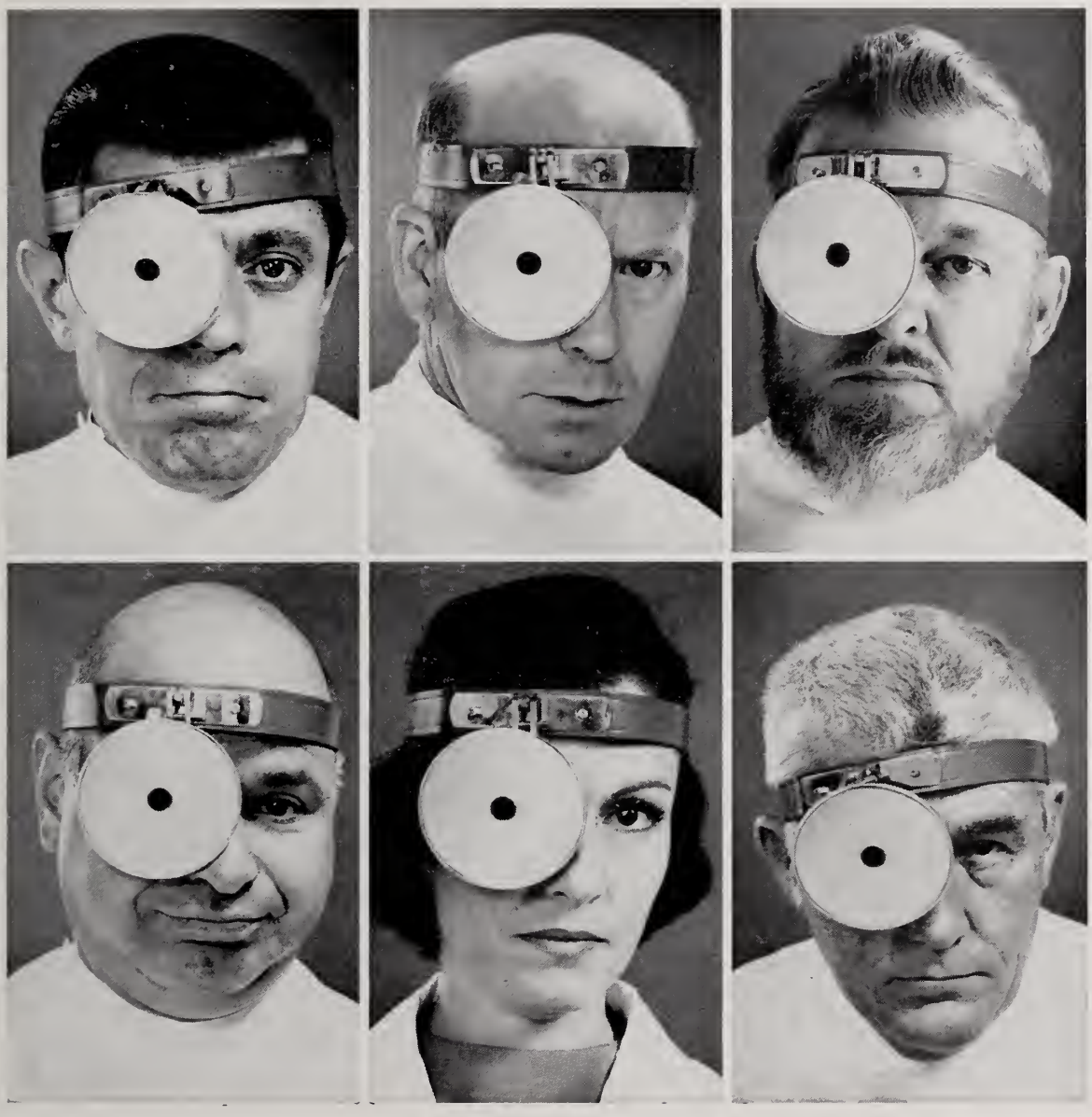
State Zip

Mail Coupon to nearest DAIRY COUNCIL:

PROJECT WEIGHT WATCH

FACTS, NOT FADS

DAIRY COUNCIL OF TIDEWATER, 3338 Cromwell Drive, Norfolk, Virginia 23509
DAIRY COUNCIL OF RICHMOND, 2112 Spencer Road, Richmond, Virginia 23230
DAIRY COUNCIL OF ROANOKE, 537 West Campbell Avenue, Roanoke, Virginia 24016
Dairy Council of Greater Metropolitan Washington, 1511 "K" Street, N.W., Washington, D.C. 20005



"All Otolaryngologists are Alike"

Just look at them and you can see how much they have in common. Besides, they all go through pretty much the same training, and pass the same kinds of tests, and measure up to the same sort of standards. Therefore, all otolaryngologists are alike. Right?

Wrong! But that's no more preposterous than what some people say about aspirin. Namely: since all aspirin is at least supposed to come up to certain required standards, then all aspirin tablets must be alike.

Bayer's standards are far more exacting. In fact, there are at least nine *specific differences* involving moisture content, purity, potency and speed of tablet disintegration, which make the manufacture of Bayer® Aspirin so different.

These Bayer standards result in significant product benefits, including gentleness to the stomach and product stability, that enable Bayer Aspirin tablets to *stay* strong and gentle until they are taken.

So next time you hear someone say that *all* aspirin tablets are alike, you can say, with confidence, that "it just isn't so."

You might also say that all otolaryngologists aren't alike, either.

when he just can't sleep

Tuinal®

Sodium Amobarbital and Sodium Secobarbital

(One-Half Sodium Amobarbital and One-Half Sodium Secobarbital)

Tuinal helps wakeful patients fall asleep fast, stay asleep all night.

Indications: Tuinal, comprised of equal parts of Seconal® Sodium (sodium secobarbital, Lilly) and Amytal® Sodium (sodium amobarbital, Lilly), is indicated for prompt and moderately long-acting hypnosis.

Contraindications: Barbiturates should not be administered to anyone with a history of porphyria, nor should they be given in the presence of uncontrolled pain, because excitement may result.

Warning: May be habit-forming.

Precautions: Tuinal should be used cautiously in patients with decreased liver function, since prolongation of effect may occur.

Adverse Reactions: Idiosyncrasy, such as excitement, hangover, or pain, may appear. Hypersensitivity reactions occur in some patients, especially in those with asthma, urticaria, or angioneurotic edema.

Dosage: 1½ to 3 grains at bedtime.

Supplied: ¾, 1½, and 3-grain Pulvules®.

Additional information available to physicians upon request.
Eli Lilly and Company • Indianapolis, Indiana 46206

Lilly

700196

...and then there's the one about cucumbers curing headaches.

Cucumbers cure headaches?

Some people say placing cucumber peel on your forehead really works. Like cucumber peelings, there are dozens of other 'home-fashioned' remedies used for headache relief, but most people prefer a more scientific remedy. Many still believe headache discomfort is an un-explained fact of life to be endured, too. However, medical science tells us that a headache may be the result of many complex and obscure physical conditions. One theory classifies more than 200 separate causes for a headache. Occasional headaches usually can be related directly to a specific event or experience. But recurrent headaches, or very severe attacks, could mean that a physician should be consulted. Expert diagnosis and detection of the actual cause could bring lasting relief.

So if frequent headaches disturb your well-being, Peoples suggest you see your doctor. If he should prescribe something for you, remember that Peoples Drug Stores will always serve you efficiently, courteously and professionally.

PEOPLES® PRESCRIPTION DRUG STORES

ALL PEOPLES DRUG STORES FILLED OVER 7 MILLION PRESCRIPTIONS IN 1966, A MEASURE OF THE TRUST PEOPLE HAVE IN PEOPLES.

ONE OF A SERIES PUBLISHED REGULARLY IN THE DAILY PAPERS BY PEOPLES DRUG STORES, TO KEEP THE PUBLIC BETTER INFORMED ON MATTERS OF HEALTH.

Headache remedies don't grow in gardens but it seems that people can have some very unlikely and old-fashioned ideas. No doubt you, Doctor, have encountered such equally surprising beliefs from time to time. Not too often, we hope. Folk-medicine makes interesting reading but not very effective treatment. That's why we are always happy to do our part, whenever possible, to encourage people to seek professional medical advice when they have physical disorders. As always, Peoples Drug Stores are here to serve you and your patients. Please call on us at any time, Doctor.

PEOPLES® PRESCRIPTION DRUG STORES

ALL PEOPLES DRUG STORES FILLED OVER 7 MILLION PRESCRIPTIONS IN 1966
A MEASURE OF THE TRUST PEOPLE HAVE IN PEOPLES.

People keep asking us:

"Why do you call the

FILTER QUEEN

a sanitation system

instead of a vacuum cleaner?"

FOR THE BIG DIFFERENCE
SEE THE NEXT TWO PAGES

Only FILTER

(The problem of overcoming increasing air pollution is one of the most urgent facing your institution and the entire community today. How FILTER QUEEN, through its unique, patented Filter Cone helps combat air pollution while it cleans, should be of vital interest to every member of your hospital staff. We hope you will mark these pages and route them accordingly.)

1. Every hospital has its dust and odor problems.

Dramatic smoke test shows how FILTER QUEEN removes air-borne contaminants and offensive odors

2. That's when a FILTER QUEEN is needed.

3. FILTER QUEEN quickly removes air-borne contaminants while it vacuu

QUEEN helps purify the air while it cleans!

That is why we call FILTER QUEEN a sanitation system instead of a vacuum cleaner!

A FEW OF THE HUNDREDS OF HOSPITALS NOW USING FILTER QUEEN:

esno Community Hospital.....Fresno, California
dy Memorial Hospital.....Atlanta, Georgia
nt Hospital.....Columbus, Ohio
ry County General Hospital.....Paris, Tennessee
ry Ford Hospital.....Detroit, Michigan
y Cross Hospital.....Ft. Lauderdale, Florida
s Angeles City Genl. Hospital..Los Angeles, California
ss. Memorial Hospitals.....Boston, Massachusetts
dical College of Virginia.....Richmond, Virginia
rthwestern Hospital.....Minneapolis, Minnesota
erlook Hospital.....Summit, New Jersey
t Huron Hospital.....Port Huron, Michigan
een's Hospital.....Honolulu, Hawaii
John's Memorial Hospital.....Anderson, Indiana
rcester City Hospital.....Worcester, Massachusetts

The engineers who perfected the FILTER QUEEN machine clearly recognized that all bag-type vacuum cleaners cannot operate with maximum efficiency because they use a porous bag. So, to make suction cleaning action truly efficient, they had to find a way to overcome the leakage in dust and dirt that so often occurs whenever a porous bag is used.

The highly successful result was an entirely *different* air flow principle, known today as Cyclonic Cleaning Action. By using Cyclonic Cleaning Action, FILTER QUEEN'S designers succeeded in not only collecting the dust and dirt normally collected by vacuuming; they also succeeded in trapping almost invisible airborne contaminants that formerly escaped back to repollute the air.

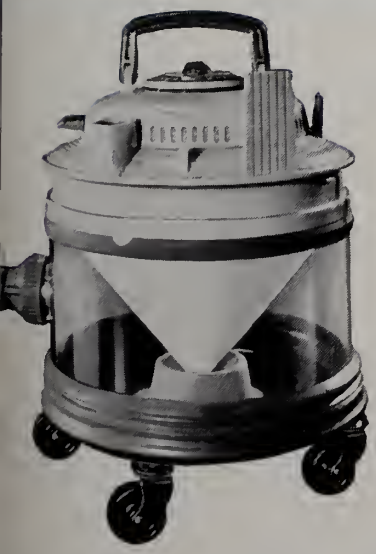
The difference between FILTER QUEEN'S remarkable Cyclonic Cleaning Action and ordinary vacuuming becomes immediately apparent when the Smoke Test pictured at left is made. Smoke, other contaminants and offensive odors virtually disappear. The room not only smells clean—it *is* clean!

The key to this almost magic action is FILTER QUEEN'S patented Sanitary Filter Cone. (See illustration.) Inrushing air, laden with dirt and dust, is deflected by a patented inlet guide as it enters the FILTER QUEEN container, then is whirled away by centrifugal force. Foreign matter heavier than air is forced to the bottom and the sides.

Clean air is filtered through our exclusive Sanitary Filter Cone *above* floor level, leaving smoke as well as dirt and dust trapped in the container. That is why hundreds of hospitals and other institutions insist on the FILTER QUEEN Sanitation System over any type of vacuum cleaner.

Ask your local FILTER QUEEN Distributor to make FILTER QUEEN'S dramatic Smoke Test in your hospital. Then you will *KNOW* why we proudly call it a FILTER QUEEN Sanitation System instead of a "vacuum cleaner."

DOCUMENTARY PROOF: *We would like to send you, with our compliments, an article entitled "Air Hygiene for Hospitals" which appeared in the Journal of the American Medical Association. In this article it is explained what happened to airborne contaminants when a FILTER QUEEN was used in a series of rigidly controlled tests conducted at the Harvard Medical School. Write to Health-Mor, Inc., 203 North Wabash Ave., Chicago, Illinois 60601*



The FILTER QUEEN sanitary filter cone is a scientifically-designed dust separator, composed of a special long-fibred mat of pure cellulose, chemically treated to give it the necessary strength and air-filtering characteristics.

FILTER QUEEN is a product of HEALTH-MOR, INC.,
203 North Wabash Ave., Chicago, Ill. 60601.
In Canada: Filter Queen Corp. Ltd.,
252 Victoria St., Toronto, Ont.
In Mexico: Industrias Filter Queen, S. A.,
Jardin No. 330, Col del Gas, Mexico 15, D. F.

FILTER QUEEN

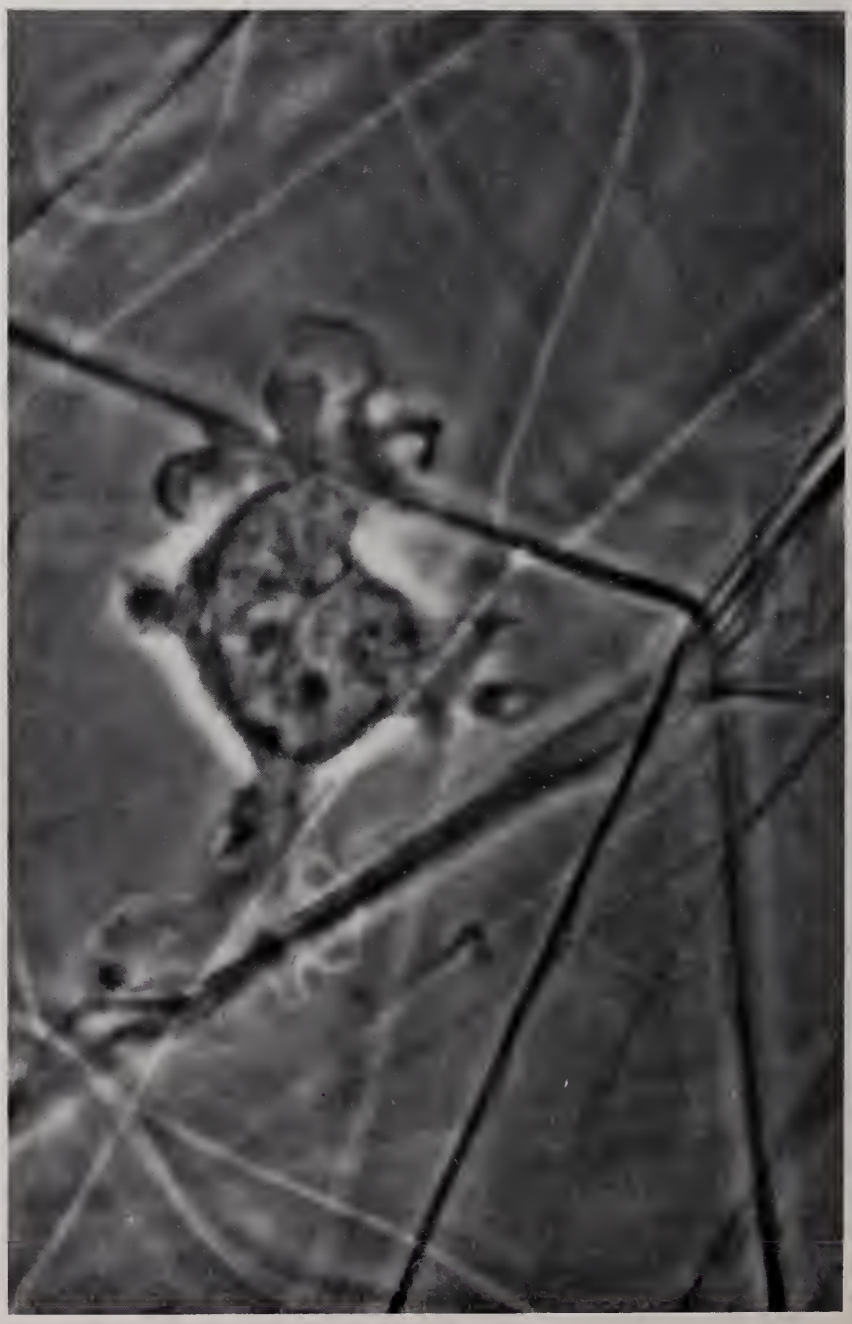
The cleaning method that does so much more it has to be called a Sanitation System.

INFLAMMATION: A cellular fight for life

A SYNTEX REPORT based on recently developed hypotheses about topical corticosteroids, including the cellular theories of inflammation by Thomas F. Dougherty, Ph.D., University of Utah.

You are looking at a fibroblast fighting for life. This cell—one of the most common found in connective tissue—has literally been poisoned by cytotoxins released from other cells that have ruptured. Soon, if the abnormal activity of this fibroblast does not cease, it, too, will rupture and die—one more casualty in the inflammatory wave of destruction precipitated by injury.

Until a short time ago no one had ever witnessed such a scene at the cellular level. Now, through advanced cinemicrographic techniques, it is possible to view and photograph the inflammatory process as produced experimentally in living animal tissue. This method permits new insight into the mechanism of inflammation and the role of corticosteroids in therapeutic management. Equally important, these techniques shed new light on factors that may make one corticosteroid more effective than another—factors that can be correlated with other chemical, biologic, and clinical parameters.

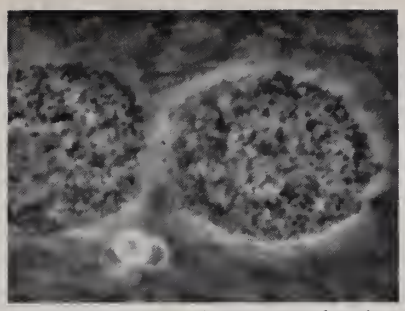


Visual evidence of how corticosteroids influence the inflammatory reaction

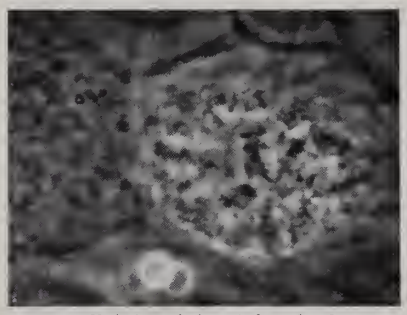
Working with phase-contrast cinemicrography on living animal tissue, Doctors Thomas F. Dougherty and David Berliner of the University of Utah College of Medicine have actually filmed cellular events that occur during the inflammatory reaction. This remarkable study* and additional work by these investigators, as well as by others, have established a new theoretical biologic basis for the antiinflammatory effect of the corticosteroids. (It must be noted that other theories, such as the lysosome or so-called "suicide bag" theory, have been postulated, although it is quite likely that there are more similarities than differences among the various theoretical models.)

The inflammatory wave of destruction

In this investigation an injurious injection of gelatin is used to set off an inflammatory reaction in living mouse tissue. What follows is a wave of destructive cellular activity that comprises the inflammatory response to injury. Mast cells (which contain heparin, serotonin and histamine) take up water, swell and rupture, releasing their contents, which are toxic outside the mast cell wall. These toxins, in turn, cause disintegration of other cells (such as fibroblasts) and the release of additional toxic material. Capillaries, too, take up water and leak unformed blood elements, causing edema. And polymorphonuclears, lymphocytes and perithelial cells invade the inflamed site. As a result of all these changes, the cellular environment reaches a state of turmoil.



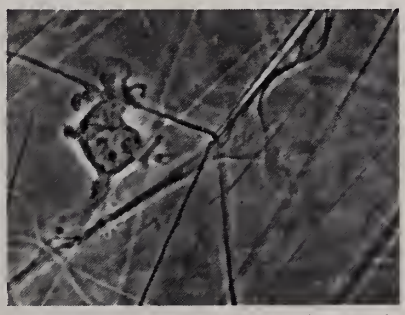
Phase-contrast microscopy showing mast cell before injury.



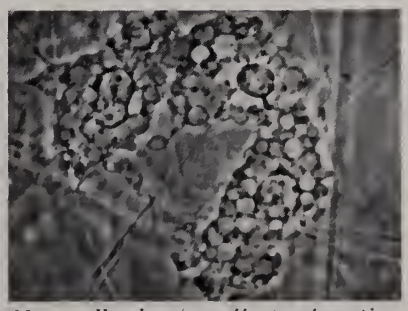
Mast cell (after injury) has broken up and released cytotoxins.

How corticosteroids change the picture

Corticosteroids appear to virtually stop the abnormal cellular activity that constitutes the inflammatory reaction. This permits the body's natural resources to clear up the inflamed area and repair the damaged tissue. This interpretation is supported by the fact that when the injurious gelatin solution is injected simultaneously with a corticosteroid – Synalar (fluocinolone acetonide) – the inflammatory pattern simply does not develop.



Fibroblast in high state of activity, much distorted.



Mast cells showing effects of corticosteroid action: cells are normal in size, shape and activity.

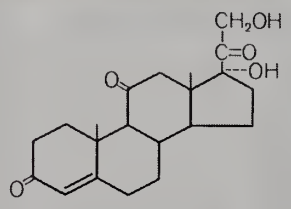
In summarizing his study Doctor Dougherty states: "...we also feel this work may explain why one corticosteroid helps a patient more rapidly and effectively than another. If it does, it is because one corticosteroid is the fastest, most effective inhibitor of the series of inflammatory events at the tissue level."

A New View of Corticosteroid Action in Inflammatory Dermatoses, a film based on this study, is now available from your Syntex representative.

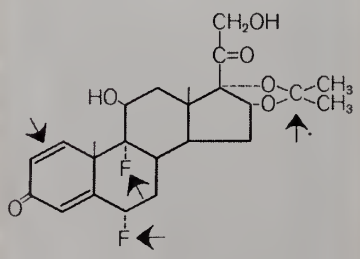
See last page for contraindications, precautions, side effects and dosage.

How advances in chemical design have achieved greater steroid potency

The chemical modification of corticosteroid molecules from the advent of hydrocortisone to the development of Synalar (fluocinolone acetonide) is a prime example of how biochemists can "design" to increase therapeutic activity and minimize undesirable side actions. Below, for example, we see the important changes that were made in reference to the hydrocortisone molecule to produce fluocinolone acetonide, one of the most active of all topical corticosteroids. As a result, a 0.01% preparation of Synalar (fluocinolone acetonide) has been reported to do the work of a 1% hydrocortisone product containing 100 times more corticosteroid. And it can often do it more effectively.



Hydrocortisone

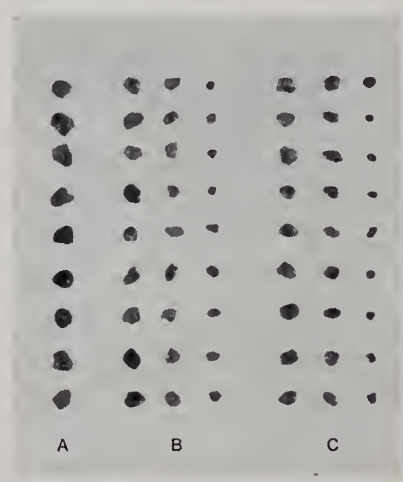


Fluocinolone Acetonide (Synalar)

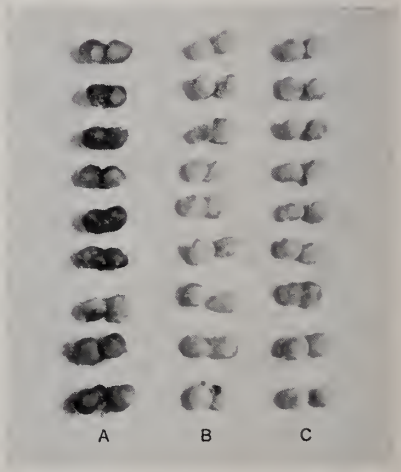
- *a double bond between carbons 1 and 2*
- *fluorine substitutions at* both *the 6-α, and the 9-α positions*
- *the addition of the acetonide at the 16-α, 17-α positions, thus providing one of the most potent topical corticosteroids available.*

How bioassay tests are used to "predict" therapeutic potential

Biologic assays are another tool used by researchers to help establish the relative activity of corticosteroids. To date no single method of assaying corticosteroid activity has emerged as the ideal "yardstick" for predicting therapeutic potential. Taken together, however, these methods have proved useful. When such tests are run on various corticosteroids, a definite order of corticosteroid activity becomes evident. Compounds with the highest order of activity may be expected to merit clinical trial to establish their high therapeutic potential. When assayed by these methods, fluocinolone acetonide (Synalar) emerges as one of the most active topical corticosteroids, milligram for milligram, available for clinical application today.



THE THYMUS INVOLUTION ASSAY[1-4] is run on adrenalectomized rats. The sizes of the glands are measured, and the degree of involution caused by the steroid is determined as an indication of its potency. In the above photo, the comparative involution of thymus glands achieved with hydrocortisone and Synalar (fluocinolone acetonide) is shown. Untreated controls (A) show normal size. Group B – injected with 1, 2 and 4 mg. of hydrocortisone – show progressively smaller thymuses as does Group C – injected with fluocinolone acetonide – but with only 1/500th the dose of hydrocortisone.



THE ANTIGRANULOMA ASSAY[1-4] also utilizes adrenalectomized rats. Granulomas are induced by subcutaneous implantation of cotton pellets on either side of the thorax. The degree of granuloma inhibition achieved by a steroid reflects its potency. The above photo shows the inhibition of granuloma formation achieved with hydrocortisone and Synalar (fluocinolone acetonide). Untreated controls (A) show large, red granulomas adhering to the pellets. Group B, receiving hydrocortisone and Group C, receiving fluocinolone acetonide, show little, if any, granuloma formation. Fluocinolone acetonide produced the same effect as hydrocortisone with only 1/500th the dose. This assay, as well as the thymus involution assay, measures systemic rather than topical corticosteroid activity. Nevertheless, results by these methods correlate well with other assays and with the milligram potencies of topical steroids in current clinical use.

Worldwide clinical experience confirms the predictable therapeutic potential of Synalar

It is particularly gratifying that the promise of the advanced chemical design and high order of bioassay activity of Synalar (fluocinolone acetonide) has been confirmed by widespread therapeutic application. Indeed, the impressive clinical response rate of Synalar has been documented in no fewer than 232 papers from 22 countries.

Representative Clinical Results with Synalar*

Efficacy Documented in over 4,000 Patients

Condition	Number of Publications	Number of Patients	Significant Improvement†
Contact Dermatitis	27	750	713
Eczematous Dermatitis	21	472	409
Seborrheic Dermatitis	18	442	426
Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
Total	144	4,174	3,808

*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

PRESCRIBING INFORMATION

For initiation of therapy: Cream 0.025%, 5 and 15 Gm. tubes, 425 Gm. jars; *for emollient effect:* Ointment 0.025%, 15 Gm. tubes; *for maintenance therapy:* Cream 0.01%, 15 and 45 Gm. tubes, 120 Gm. jars; *for intertriginous or hairy sites:* Solution 0.01%, 20 cc. and 60 cc. plastic squeeze bottles; *for infected inflammatory dermatoses:* Neo-Synalar® Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes. CONTRAINDICATIONS: Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components. PRECAUTIONS: Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. SIDE EFFECTS: Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

REFERENCES: 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. Ann NY Acad Sci 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. Proc Soc Exp Biol Med 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: Methods of hormone research, New York, Academic Press, 1964. vol. III. pp. 234-280. 4. Gubersky, V. R.: To be published.

fluocinolone acetonide — an original steroid from

SYNTEX

LABORATORIES INC., PALO ALTO, CALIF.

For inflammatory dermatoses... by any measure a topical corticosteroid of choice

Synalar® (fluocinolone acetonide)

Milligram for milligram one of the most active topical corticosteroids available

Rapid and predictable in antiinflammatory and antipruritic activity

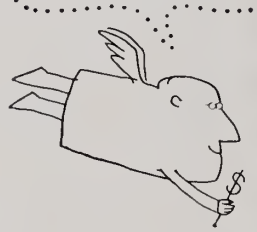
Results often comparable to those of systemic corticosteroids with fewer hazards

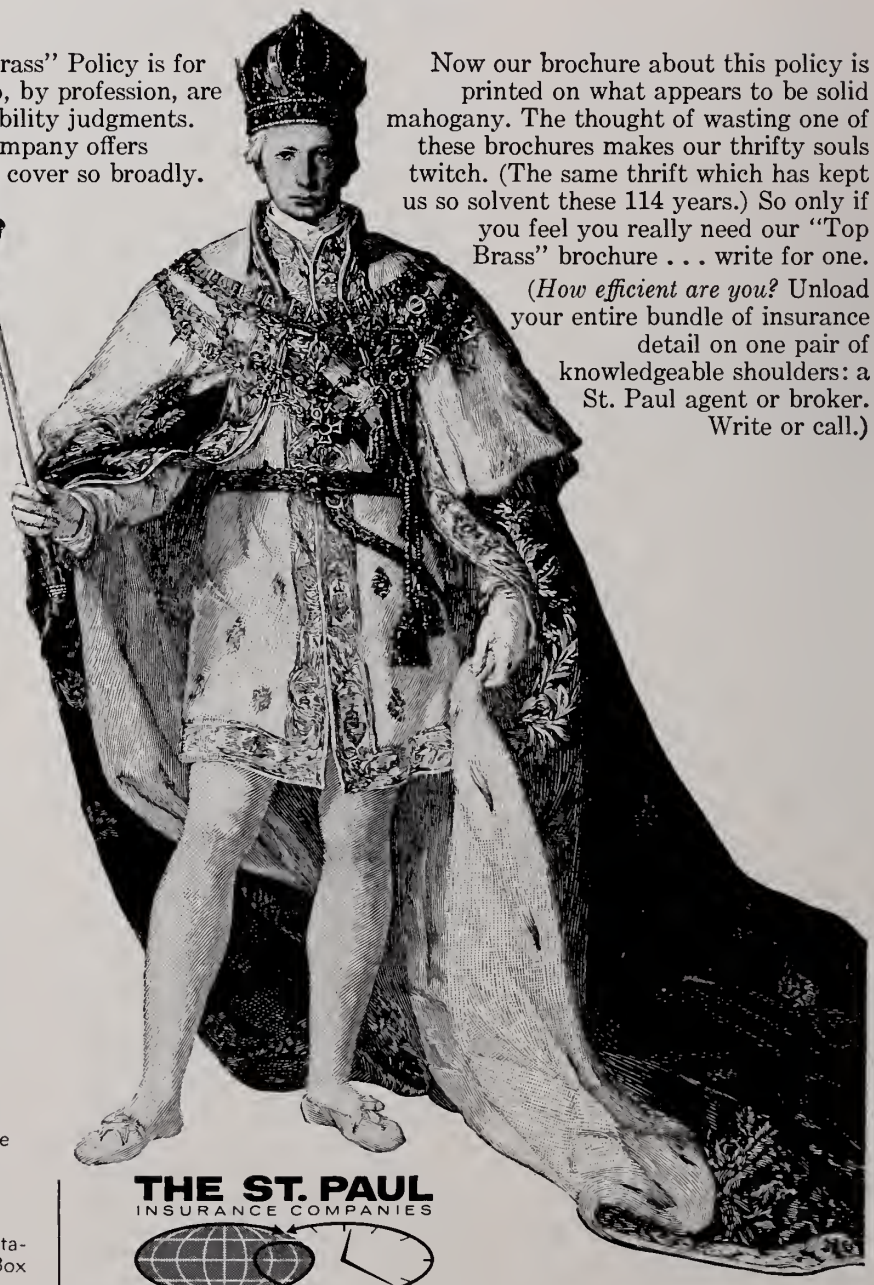
Been sued for a king's ransom lately?

(Save this ad. You may need it tomorrow if you don't today.)

The St. Paul "Top Brass" Policy is for people like you who, by profession, are vulnerable to heavy liability judgments. Not every insurance company offers this kind of policy; few cover so broadly.

You can now increase your Professional (and personal) Liability coverage by as much as $5,000,000. And you get extra "major medical" coverage in most cases at no extra cost.





Now our brochure about this policy is printed on what appears to be solid mahogany. The thought of wasting one of these brochures makes our thrifty souls twitch. (The same thrift which has kept us so solvent these 114 years.) So only if you feel you really need our "Top Brass" brochure . . . write for one.

(*How efficient are you?* Unload your entire bundle of insurance detail on one pair of knowledgeable shoulders: a St. Paul agent or broker. Write or call.)

For further information, or the name of your nearest St. Paul agent, please contact The St. Paul office at:

RICHMOND, Westhampton Station, Byrd Building, P.O. Box 8567, 23226
Phone: 282-9711

ROANOKE, 2016 Colonial Avenue, S.W., 24015
Phone: 342-6745

THE ST. PAUL
INSURANCE COMPANIES

Serving you around the world... around the clock

St. Paul Fire and Marine Insurance Company
St. Paul Mercury Insurance Company
Western Life Insurance Company
St. Paul, Minnesota 55102

A Building Block approach to treating hypertension

ABBOTT

With these three therapeutic building blocks you can create a once-a-day regimen to fit almost any degree of hypertension. See the following pages for details . . .

Consider starting your hypertensives on this basic thiazide

Enduron eliminates sodium around the clock, yet is relatively sparing of potassium

Enduron is a true 24-hour single-dose thiazide. Its sodium excretion is not squeezed into an abrupt peak during the first several hours. It is well-sustained in a plateau-like effect — with little reduction in intensity during the first 12 hours, and decline thereafter only gradual.

Potassium loss, in contrast, reaches an early minor peak. Then it subsides rapidly. Moreover, doses larger than 5 mg. have little added effect on potassium. Thus doubling the dose from 5 to 10 mg. approximately doubles sodium excretion—yet increases potassium loss little or none.

Use Enduron once a day as an ideal starting therapy in mild hypertension. Use it, too, as a basic therapeutic building block with which other agents can be joined, for managing your more resistant hypertensives.

Once a day, every day

ENDURON®
METHYCLOTHIAZIDE

DAILY DOSAGE RANGE	Minimum	Usual	Intermediate	Maximum
	2.5 mg. tablet	5 mg. tablet	7.5 mg.	10 mg.

See Brief Summary on final page of advertisement.

To build added response, shift to Enduronyl

The deserpidine component compares favorably to reserpine, but with reduced side effects

The rauwolfia component of Enduronyl is deserpidine (Harmonyl®), a purified crystalline alkaloid. It is comparable to reserpine in its antihypertensive and tranquilizing activity. Yet it produces less tendency toward typical rauwolfia side effects such as drowsiness, lethargy, stuffy nose, depression, etc.

Patient acceptance has been excellent.

Enduronyl comes in two strengths: regular and Forte. Both provide 5 mg. of Enduron. The variation is where most needed: in the deserpidine. These scored tablets give a surprisingly flexible choice of doses (see below).

Use Enduronyl for your patients within the broad range of mild to moderate hypertension. Dosage is *once* a day: this means Enduronyl will generally cost patients less than equivalent drugs taken two or three times daily.

Once a day, every day

ENDURONYL®

METHYCLOTHIAZIDE 5 MG. WITH DESERPIDINE 0.25 MG.

ENDURONYL FORTE

METHYCLOTHIAZIDE 5 MG. WITH DESERPIDINE 0.5 MG.

	Minimum	Usual	Intermediate	Maximum
DAILY DOSAGE RANGE	2.5 mg. methyclothiazide 0.125 mg. deserpidine	5 mg. methyclothiazide 0.25 mg. deserpidine	7.5 mg. methyclothiazide 0.375 mg. deserpidine	10 mg. methyclothiazide 0.5 mg. deserpidine
DAILY DOSAGE RANGE	2.5 mg. methyclothiazide 0.25 mg. deserpidine	5 mg. methyclothiazide 0.5 mg. deserpidine	7.5 mg. methyclothiazide 0.75 mg. deserpidine	10 mg. methyclothiazide 1 mg. deserpidine

See Brief Summary on final page of advertisement.

704075

Eutonyl affords a different kind of basic therapy for moderate to severe cases

ABBOTT

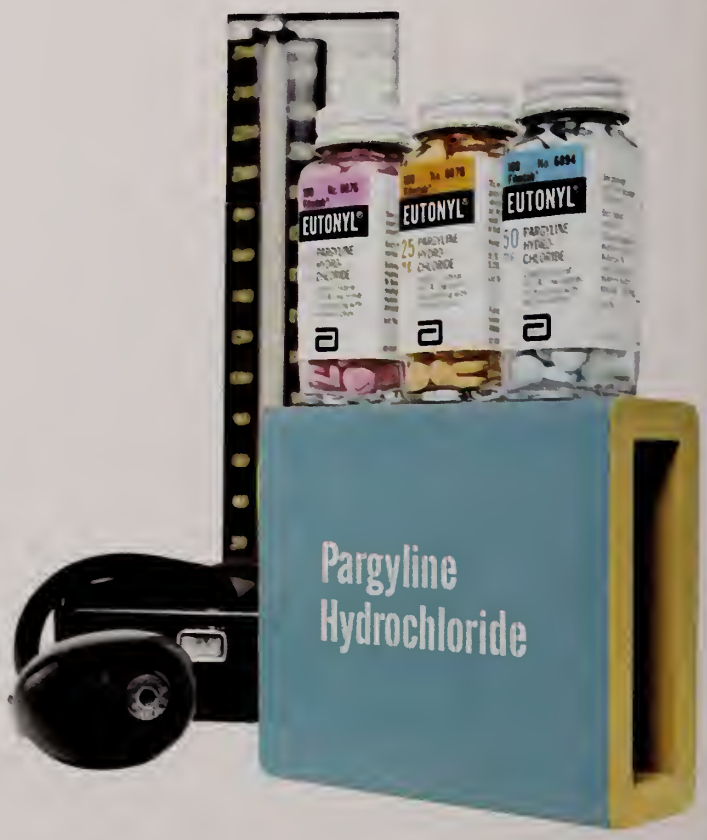
Effect tied to reduced peripheral vascular resistance; no central depressant action

Eutonyl is a unique nonhydrazine agent. It is reported to act by reducing peripheral vascular resistance, with little or no effect upon cardiac output.[1,2]

In clinical trials, significant reductions in mean blood pressure were seen in 84% of patients studied — including some unusually difficult cases. Eutonyl lowers diastolic in proportion to systolic, and in half of the cases studied, reductions in the sitting and recumbent positions were nearly as great as in the standing position.

Most important: There is no central depressant action. In fact, many patients reported an *increased* sense of well being.

Here, then, is a highly effective *basic treatment* for moderate to severe cases—and one that will not hamper your patient with lethargy or drowsiness while on treatment.



Once a day, every day

EUTONYL®
PARGYLINE HYDROCHLORIDE

DAILY DOSAGE RANGE	Minimum	Usual starting	Intermediate	Maximum
	10 mg. tablet	25 mg. tablet	50 mg. tablet or as needed	200 mg.

1. Brest, A. N., et al., Cardiac and Renal Hemodynamic Response to Pargyline, Ann. N. Y. Acad. Sci., 107-1016, 1963.
2. Winsor, T., Pargyline Hydrochloride, Hypertension, Urinary Tryptamine, and Vascular Reflexes, Geriatrics, 19:598, Aug., 1964.

See Brief Summary on final page of advertisement.

Eutron adds thiazide for enhanced therapy with milder side effects

Only a 7/4 mm. span between standing and recumbent pressures—reduced chance of orthastatic hypotension

The combining of Eutonyl and Enduron in Eutron permits a significantly greater antihypertensive effect than with either agent used alone. This in turn may allow therapeutic success with lesser dosage—and correspondingly milder side effects.

Indeed, fully 94.5% of all patients studied during clinical trials continued on therapy uninterrupted by side effects.

Most striking was the drug's action in lowering blood pressure to *nearly equal levels in all body positions*. Total average spread between standing and recumbent readings (after treatment) was only 7/4 mm. Hg.

Thus, in your moderate to severe cases, Eutron affords a usually smooth course of therapy, with reduced likelihood of orthostatic effects. And, because of the thiazide component, Eutron may be used in the presence of congestive heart failure.

Once a day, every day

EUTRON™

PARGYLINE HYDROCHLORIDE 25 MG.
WITH METHYCLOTHIAZIDE 5 MG.

DAILY DOSAGE RANGE	Minimum	Usual starting	Intermediate	Maximum
	12.5 mg. pargyline hydrochloride and 2.5 mg. methyclothiazide	25 mg. pargyline hydrochloride and 5 mg. methyclothiazide	37.5 mg. pargyline hydrochloride and 7.5 mg. methyclothiazide	50 mg. pargyline hydrochloride and 10 mg. methyclothiazide

See Brief Summary on final page of advertisement.

TM—Trademark

704075

ENDURON™

METHYCLOTHIAZIDE

ENDURONYL™

Each tablet contains Methyclothiazide 5 mg. with Deserpidine 0.25 mg. or 0.5 mg.

Indications: Enduron is used to control edema and mild hypertension. Also used with other drugs for hypertension. Enduronyl is used in mild to moderately severe hypertension.

Contraindications: Neither Enduron nor Enduronyl should be used in severe renal disease (except nephrosis) or shutdown; in severe hepatic disease or impending hepatic coma; in patients sensitive to thiazides. Enduronyl is contraindicated in severe mental depression, active peptic ulcer, and ulcerative colitis.

Warnings: Consider possible sensitivity reactions in patients with a history of allergy or asthma. Avoid use of enteric-coated potassium tablets, as these may induce serious or fatal small bowel lesions; if added potassium intake is desired, dietary supplementation is recommended. Coated potassium tablets should be reserved for cautious use when adequate dietary supplementation is impractical.

Precautions and Adverse Reactions: Use thiazides with caution in severe renal dysfunction. Caution is also necessary with impaired hepatic function or progressive liver disease. During intensive or prolonged thiazide therapy, watch chloride and potassium levels (especially the latter if patient is on digitalis). In surgical patients, thiazides may alter response to vasopressors and tubocurarine. Use thiazides with caution in pregnancy (bone marrow depression, thrombocytopenia, or altered carbohydrate metabolism are possible in certain newborn). Occasional thiazide side effects also include blood dyscrasias; elevations of BUN, serum uric acid, or blood sugar; electrolyte imbalance, g.i. disturbances, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, pancreatitis, and gout.

Use Enduronyl with caution in patients with a history of peptic ulcer, as rauwolfias may increase gastric secretion. Discontinue at the first sign of mental depression. Rauwolfias may increase hypotensive effects of surgery or anesthesia, and are best discontinued two weeks prior. They also lower the convulsive threshold in epilepsy. Other possible rauwolfia side effects include drowsiness, nasal stuffiness, nausea, weight gain, and diarrhea. Less frequent complications of deserpidine therapy are aggravation of peptic ulcer, epistaxis, and skin eruption. Alcohol, barbiturates or narcotics may potentiate action of deserpidine.

EUTONYL™

PARGYLINE HYDROCHLORIDE

EUTRON™

Each tablet contains Pargyline Hydrochloride 25 mg. with Methyclothiazide 5 mg.

Indications: For treatment of patients with moderate to severe hypertension, especially those with severe diastolic hypertension. Not recommended for use in patients with mild or labile hypertension amenable to therapy with sedatives and/or thiazide diuretics alone.

Contraindications: Pheochromocytoma, advanced renal disease, paranoid schizophrenia and hyperthyroidism. Until further experience is gained, not recommended for use in patients with malignant hypertension, children under 12, or pregnant patients.

Concomitant use of the following is contraindicated: other monoamine oxidase inhibitors; parenteral forms of reserpine or guanethidine; sympathomimetic drugs; foods high in tyramine such as cheese; imipramine and amitriptyline, or similar antidepressants; methyldopa. Interval of two weeks should separate therapy and use of these agents.

Warnings: Pargyline hydrochloride is a monoamine oxidase inhibitor. Warn patients against eating cheese, and using alcohol, proprietary drugs or other medication without the knowledge of the physician. When necessary to administer alcohol, narcotics (meperidine should be avoided), antihistamines, anesthetics, barbiturates, chloral hydrate and other hypnotics, sedatives, tranquilizers, or caffeine, these can be used cautiously at a dosage of ¼ to 1/5 the usual amount. Adjust dose of anesthetic agents to response of patient. Avoid parenteral administration where possible. Withdraw pargyline two weeks before elective surgery.

Warn patients about the possibility of postural hypotension. Those with angina or other evidence of coronary disease should not increase physical activity. Pargyline may lower blood sugar. Avoid use of enteric-coated potassium tablets, as these may induce serious or fatal small-bowel lesions; if added potassium intake is desired, dietary supplementation is recommended. Coated potassium tablets should be reserved for cautious use when adequate dietary supplementation is impractical.

Precautions: Measure blood pressure while patient is standing to determine antihypertensive effect. Use with caution in hyperactive or hyperexcitable persons. Such persons may show increased restlessness and agitation. Withdraw drug during acute febrile illness. Watch patients with impaired renal function for increasing drug effects or elevation of BUN and other evidence of progressive renal failure; withdraw drug if such alterations persist and progress. Use with caution in patients with liver dysfunction or progressive liver disease. As with all new drugs, complete blood counts, urinalyses, and liver function tests should be performed periodically. With prolonged therapy, examine patients for change in color perception, visual fields, and fundi.

During intensive or prolonged methyclothiazide therapy, watch chloride and potassium levels (especially latter if patient is on digitalis). Methyclothiazide also may reduce arterial response to pressor amines. Use thiazides with caution in pregnancy (bone marrow depression, thrombocytopenia, or altered carbohydrate metabolism are possible in certain newborns). Thiazide drugs may increase responsiveness to tubocurarine.

Side Effects: Pargyline may be associated with orthostatic hypotension. Mild constipation, slight edema, dry mouth, sweating, increased appetite, arthralgia, nausea and vomiting, headache, insomnia, difficulty in micturition, nightmares, impotence, delayed ejaculation, rash, and purpura have been encountered with pargyline. Hyperexcitability, increased neuromuscular activity (muscle twitching) and other extra-pyramidal symptoms have been reported. Drug fever is extremely rare. Congestive heart failure has been reported in a few patients with reduced cardiac reserve.

Thiazide side effects also include blood dyscrasias, elevation of BUN, serum uric acid, or blood sugar, electrolyte imbalance, g.i. disturbances, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, pancreatitis, and gout. Nocturia has been observed with the combination.

ABBOTT

704075

in Food Processing or Selecting Health Care Coverage,

DECISION MAKERS NEED FACTS IN DEPTH

Adapting treasured old recipes from the colonial kettle to the modern assembly line is a vital and growing Virginia business. The food industry decision maker constantly strives for more profitable methods of processing and selling world-famous products. Facts in depth —on weather, packaging, advertising, pricing and countless other elements—are of prime importance to the men who shape the bright future of Virginia's food industry.

Facts in depth are the essential ingredients, too, in the decision maker's choice of an employee health care program. A comparison of facts has led executives in over 5,000 Virginia firms to choose Blue Cross-Blue Shield.

These decision makers know that Blue Cross-Blue Shield's Merit Rating system can effect considerable economies in the cost of group health care coverage. They appreciate the fact that Blue Cross-Blue Shield gets right to the core of what employees need in health care coverage. In short, they find Blue Cross-Blue Shield a better buy, offering full-time service and full protection benefits.

Get the facts in depth from an expert, your local Blue Cross-Blue Shield representative. He will be happy to give you the detailed facts on health care coverage. Let him show you what Blue Cross-Blue Shield can do for your business and your employees. Call him soon.

BLUE CROSS BLUE SHIELD
4010 West Broad Street Richmond, Virginia 23230

This pain is getting on my nerves.

Patients in pain often experience concomitant anxiety and tension, which may add to the burden of pain.

For such patients, you may want to prescribe a preparation that offers more than simple analgesia.

A good choice is often EQUAGESIC® (meprobamate and ethoheptazine citrate with aspirin). It helps relieve pain. And anxiety. And skeletal muscle spasm as related to pain or anxiety and tension.

Equagesic® TABLETS

(meprobamate and ethoheptazine citrate with aspirin)

Wyeth®

Precautions: Keep out of reach of children. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use of meprobamate may result in dependence or habituation in susceptible persons—as ex-addicts, alcoholics, severe psychoneurotics. Withdraw gradually after prolonged high dosage to avoid possibly severe withdrawal reactions including epileptiform seizures. Warn patients of possible reduced alcohol tolerance. If drowsiness, ataxia or visual disturbances occur, reduce dose. If symptoms persist, caution patients against operating machinery or driving. Give cautiously to patients with suicidal tendencies. Treat attempted suicide with immediate gastric lavage and appropriate supportive therapy.

Side Effects: Ethoheptazine and aspirin may occasionally cause nausea, vomiting, epigastric distress, and rarely dizziness and CNS depression. Overdosage may result in salicylate intoxication. Meprobamate rarely causes allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. Meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioedema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. A few cases of leukopenia, usually transient, have been reported following prolonged dosage. Rarely, cases of aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia have been reported; almost always, in the presence of known toxic agents.

Contraindications: History of sensitivity or severe intolerance to aspirin or meprobamate.

Composition: 150 mg. meprobamate, 75 mg. ethoheptazine citrate and 250 mg. aspirin per tablet.

Wyeth Laboratories Philadelphia, Pa.

In peptic ulcer... antacid therapy with a new benefit

CONTAINS A BALANCED COMBINATION OF THE MOST WIDELY USED ANTACIDS— FOR RAPID NEUTRALIZATION. PLUS SIMETHICONE— TO CONTROL THE FACTOR WHICH ANTACIDS ALONE CANNOT INFLUENCE.

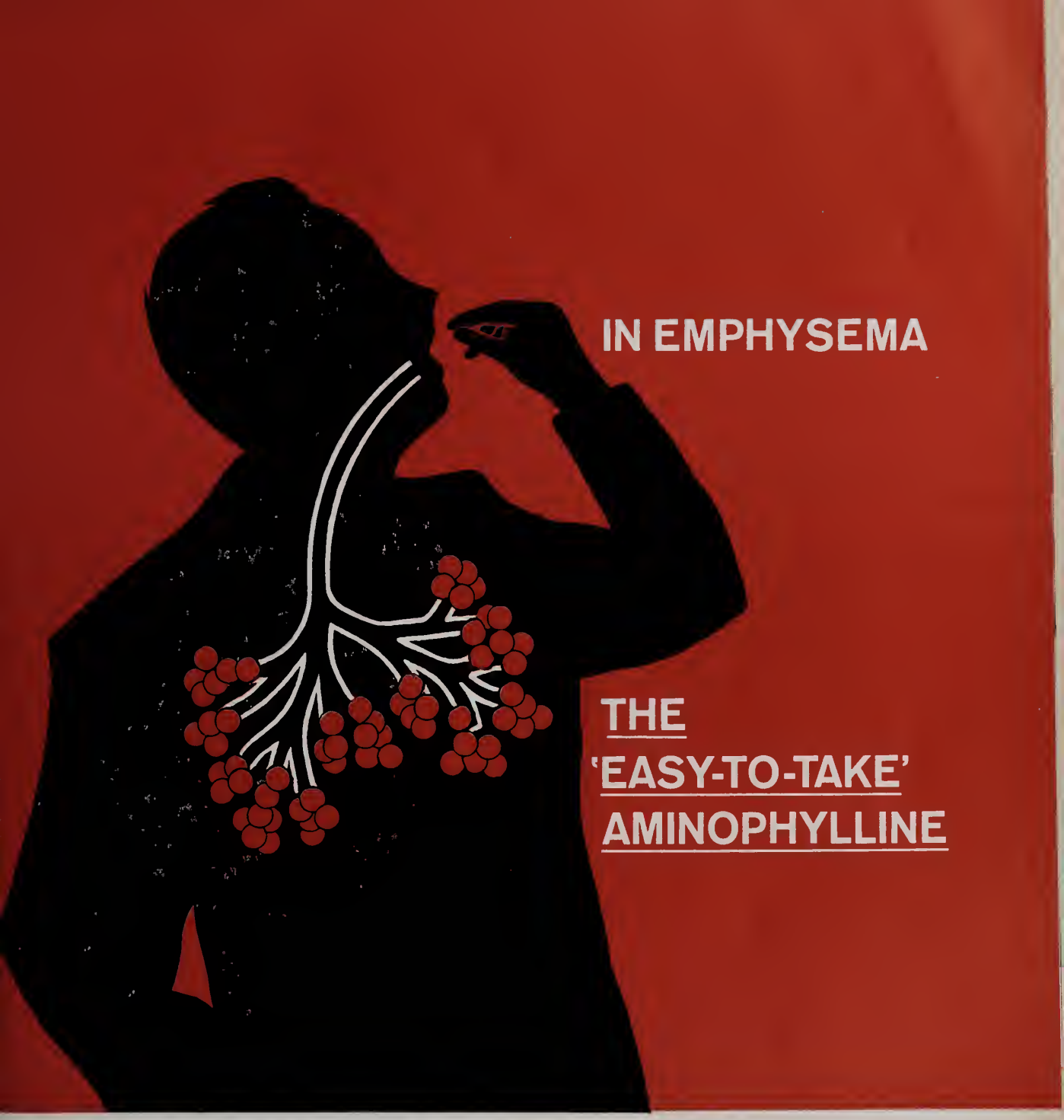
Mylanta®

- In Mylanta, aluminum and magnesium hydroxides are balanced to minimize the chance of constipation or laxation and still achieve rapid acid neutralization and pain relief.
- The positive action of simethicone helps relieve the painful gas symptoms which often accompany the peptic ulcer syndrome.
- The nonfatiguing flavor and smooth, nongritty consistency of tablets and liquid encourage continued patient cooperation during long-term therapy.

Composition: Each Mylanta chewable tablet or teaspoonful (5 ml.) of liquid contains: magnesium hydroxide, 200 mg.; aluminum hydroxide, dried gel, 200 mg.; simethicone, 20 mg. **Dosage:** one or two tablets, well chewed or allowed to dissolve in the mouth, or one or two teaspoonfuls of liquid to be taken between meals and at bedtime.

The Stuart Company, Pasadena, California
Division of Atlas Chemical Industries, Inc.

Stuart



Aminophylline dura-tabs®

prolonged-medication tablets 4½ gr. (0.3 Gm.)

Precautions: Use with caution in patients with poor renal function as a decreased rate of excretion may lead to accumulation and untoward reactions. Gastric irritation may occasionally be observed in certain patients sensitive to oral aminophylline.

Dosage: Adults, 1 to 2 Aminophylline Dura-Tabs each 8 or 12 hours, with food.

RARELY UPSET THE STOMACH

Oral aminophylline needn't disturb the stomach—nor a good night's sleep. Patients breathe easier all day, sleep better all night, as each Aminophylline Dura-Tab dose provides effective therapeutic activity for up to 12 hours. And unlike conventional tablets, AMINOPHYLLINE DURA-TABS seldom cause gastric distress. The special Dura-Tab process allows the gradual absorption of the medication from the intestinal tract with only a small fraction of the dose released in the stomach.

WYNN Pharmaceuticals, Inc., Phila., Pa. 19132 · Manufacturers of QUINAGLUTE® DURA-TABS®

How long will it take her to recover from her hip fracture if she just doesn't care?

Does she really care? Is she alert, encouraged, positive and optimistic about getting completely well soon?

Or has she given in to the demoralizing impact of confinement, disability and dependency?

When functional fatigue complicates convalescence, Alertonic can help...

Pleasant-tasting Alertonic is pipradrol hydrochloride—an effective cerebral stimulant whose gentle analeptic action helps counteract the apathy and inertia that can often delay convalescence—together with an excellent vitamin and mineral formula, in a satisfying 15% alcohol vehicle.

Nothing fosters confidence and a sense of well-being better than your own personal warmth, understanding and encouragement together with Alertonic to help insure prompt response.

Adequate dosage is important: Prescribe Alertonic—one tablespoonful t.i.d., 30 minutes before meals...tastes best chilled.

And for your patient's sake, prescribe Alertonic in the convenient, economical one-pint bottle.

Alertonic®

Available Only On Prescription

Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%; pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B_1) (10 MDR*), 10 mg.; riboflavin (vitamin B_2) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B_6), 1 mg.; niacinamide (5 MDR), 50 mg.; choline,† 100 mg.; inositol,† 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

*Multiple of adult Minimum Daily Requirement supplied.
†The need for these substances in human nutrition has not been established.

Indications: 1. Functional fatigue such as that often associated with: a depressing life experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

Dosage: Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

Contraindications: As with other drugs with CNS stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive compulsive states.

Side effects: Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

Merrell

THE WM. S. MERRELL COMPANY
Division of Richardson-Merrell Inc.
Cincinnati, Ohio 45215

mudrane®

for

- EMPHYSEMA
- ASTHMA
- CHRONIC BRONCHITIS
- BRONCHIECTASIS

The fast-disintegrating uncoated tablet gives relief in 15 minutes

Each tablet contains:

Potassium Iodide	195 mg.
Aminophylline	130 mg.
Phenobarbital, Caution: May be habit forming	21 mg.
Ephedrine HCl	16 mg.

FEDERAL LAW PROHIBITS
DISPENSING WITHOUT PRESCRIPTION

Precautions: Usual for aminophylline-ephedrine-phenobarbital. Iodides may cause nausea, long use may cause goiter. Discontinue if symptoms of iodism develop.

Iodide contraindications: tuberculosis, pregnancy.

DOSAGE

One tablet, with full glass of water, 3 or 4 times daily.

Dispensed in bottles of 100 and 1000 tablets.

MUDRANE GG—Formula, dosage and package identical to Mudrane—*except*—100 mg. glyceryl guaiacolate replaces the potassium iodide. The value of Mudrane cannot be enjoyed by a small group in which K.I. is contraindicated. Mudrane GG is prepared for this group.

MUDRANE GG ELIXIR—Four 5 cc teaspoonfuls is equivalent to one Mudrane GG tablet. Dosage adjusted to age and weight of child. Mudrane GG Elixir is for pediatric patients and those who think they cannot swallow tablets. Dispensed in pint and half gallon bottles.

WM. P. POYTHRESS & CO., INC.
RICHMOND, VIRGINIA 23217
Manufacturers of ethical pharmaceuticals since 1856

For the Discriminating Eye Physician

Depend on the Services of a Guild Optician

GUILD PRESCRIPTION OPTICIANS OF AMERICA

in Lynchburg, Virginia

A. G. JEFFERSON

Ground Floor **Allied Arts Bldg.**

Exclusively Optical

Every Virginia Doctor Should Have These Books!

The history of medicine in the Old Commonwealth from Jamestown to the beginning of the present century is a work every doctor should be proud to own. Complete and intensely interesting.

Medicine In Virginia

By Wyndham B. Blanton, M.D.

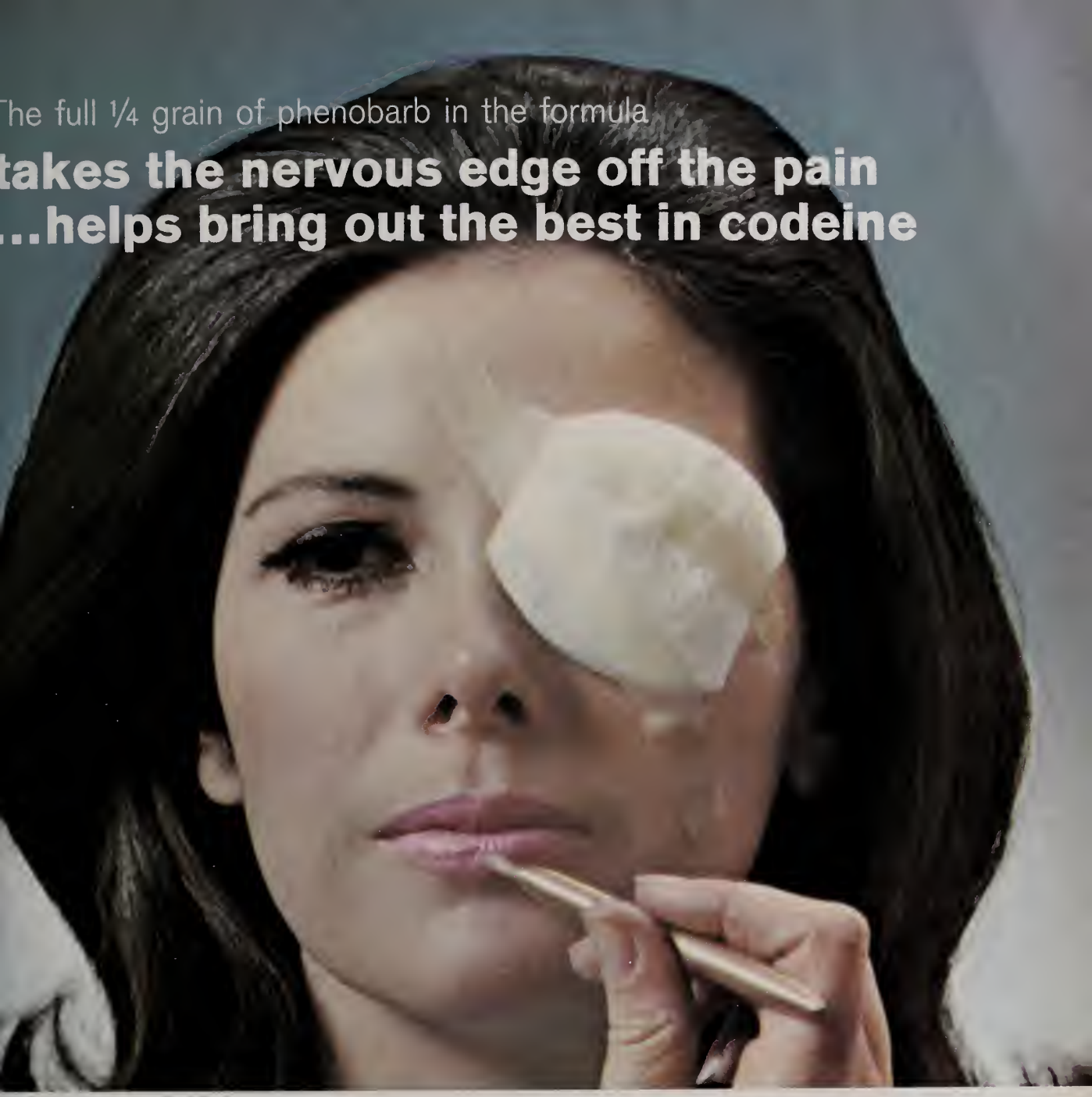
Published under the Auspices of
The Medical Society of Virginia

Reduced price to members of The Medical Society of Virginia

18th Century—$2.00
19th Century—$2.00

Order through

The Medical Society of Virginia
4205 Dover Road
Richmond 21, Virginia



Phenaphen® with Codeine

the only leading compound analgesic that calms instead of caffeinates

Each capsule contains:

Phenobarbital (¼ gr.) ..... 16.2 mg.
(Warning: may be habit forming)
Aspirin (2½ gr.) .....162.0 mg.
Phenacetin (3 gr.) .....194.0 mg.
Hyoscyamine sulfate .....0.031 mg.
Codeine phosphate.....¼ gr. (No. 2), ½ gr. (No. 3), 1 gr. (No. 4)
(Warning: may be habit forming)

Contraindications: Hypersensitivity to any ingredient.

Precautions: As with all phenacetin-containing products, avoid excessive or prolonged use.

Side Effects: Side effects are uncommon—nausea, constipation, and drowsiness have been reported.

A·H·ROBINS

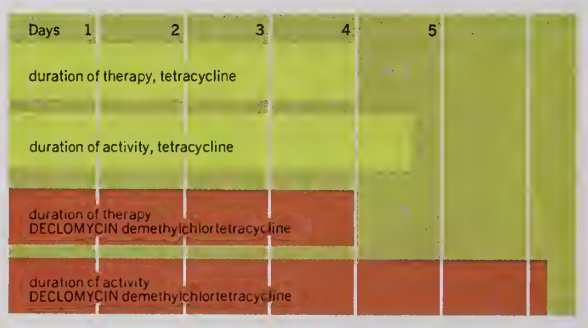
A. H. ROBINS CO., INC., Richmond, Va. 23220

why wonder about a drug

when you know

DECLOMYCIN®
DEMETHYLCHLORTETRACYCLINE

produces 1-2 "extra" days' activity



1-2 "extra" days' activity
after the last dose to protect against relapse

one 300 mg tablet b.i.d.
or
one 150 mg capsule q.i.d.

Effective in a wide range of everyday infections—respiratory, urinary tract and others—in the young and aged—the acutely or chronically ill—when the offending organisms are tetracycline-sensitive.

Contraindication—History of hypersensitivity to demethylchlortetracycline.

Warning—In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort.

Precautions and Side Effects—Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

Capsules: 150 mg; *Tablets:* film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

419-6—4075

Lederle

After anorectal surgery...

METAMUCIL®

brand of psyllium hydrophilic mucilloid

- **Reduces painful strain...**
  The soft, easily propelled bulk created by Metamucil allows comfortable elimination with a minimum of effort and irritation.
- **Softens stools...**
  Metamucil absorbs water and creates a soft, pliant fecal mass which is demulcent to mucosal surfaces.
- **Relieves irritation...**
  Metamucil provides "smoothage" to prevent the formation of scybalous concretions and to lessen painful tenesmus.
- **Encourages healing...**
  Softening of the colonic content with Metamucil allays abrasive pressure and congestion at denuded postsurgical sites.
- **And in nonsurgical conditions...**
  Metamucil minimizes both the pressure of strain on perineal structures and the physical irritation of hard masses on local lesions.

Usual Adult Dosage:

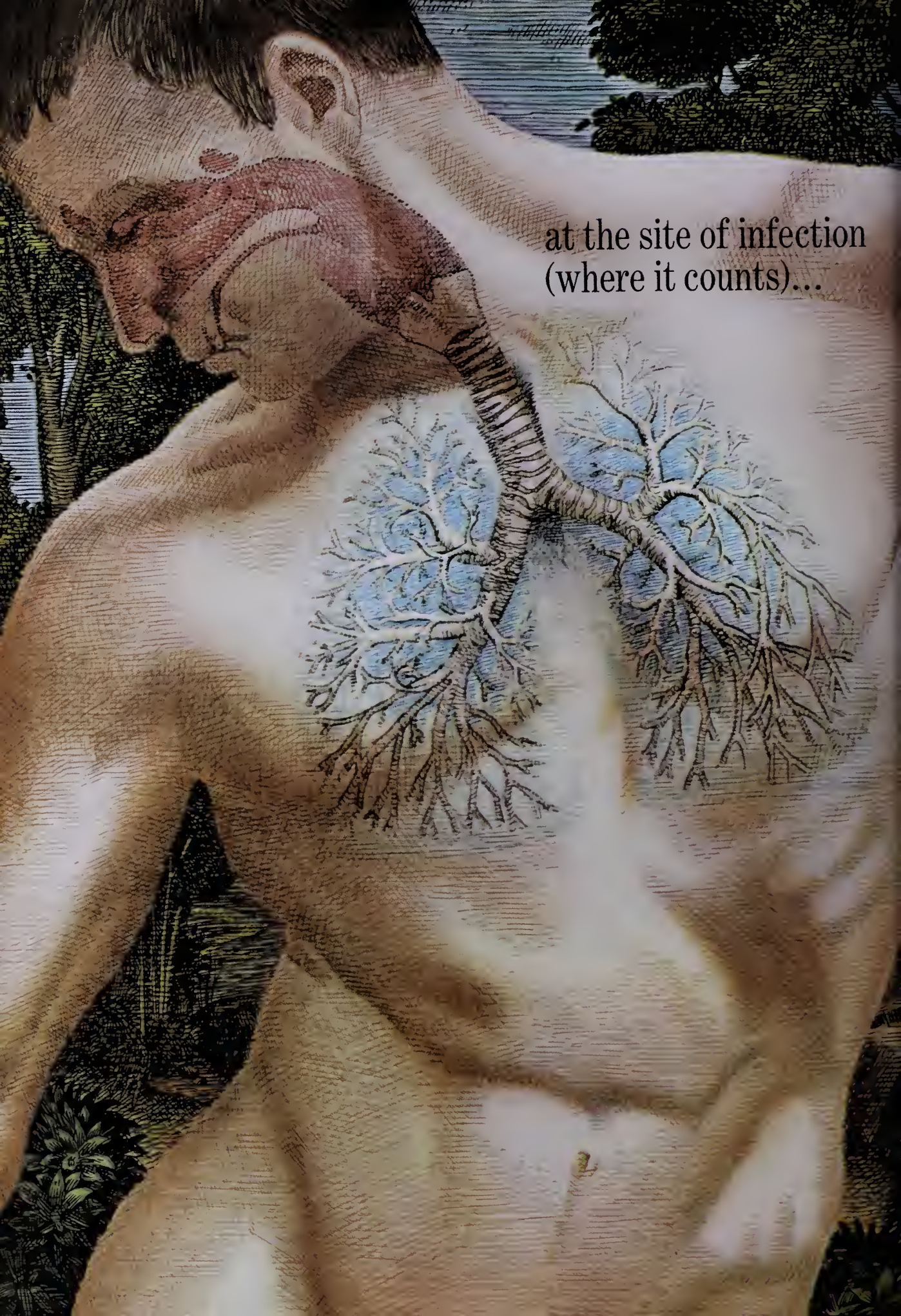
One rounded teaspoonful of Metamucil powder in a glass of cool liquid, or one packet of Instant Mix Metamucil in a glass of water. An additional glass of liquid is helpful.

Metamucil powder contains equal amounts of refined, purified psyllium and dextrose furnishing 14 calories and a negligible amount of sodium in each dose; available in containers of 4, 8 and 16 ounces.

Instant Mix Metamucil furnishes 3 calories and 0.25 Gm. of sodium in each dose; available in cartons of 16 and 30 single-dose packets.

SEARLE *Research in the Service of Medicine*

Chicago, Illinois 60680


at the site of infection
(where it counts)...

Ilosone® provides more antibacterial activity than any other oral erythromycin

Acid stable, better absorbed . . . Ilosone produces faster, higher, more prolonged blood levels, even in the presence of food[1-3]

Because it is the most active form of oral erythromycin, Ilosone can help assure consistently greater antibacterial activity at the site of infection. Ilosone produces peak antibacterial blood levels two to four times those of other erythromycin preparations.[1,2] Not only are these levels attained earlier, but they are maintained for much longer periods. Even the presence of food does not seem to affect the activity of Ilosone.[1,3]

In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

700121

Ilosone®

Lilly

Erythromycin Estolate

(See next page for prescribing information.)

Ilosone®/ the most active oral form of erythromycin

Description: Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

Indications: Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone.

Contraindications: Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with preexisting liver disease or dysfunction.

Side-Effects: Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have appeared in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly if the drug is readministered to sensitive patients, usually within forty-eight hours. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to be definitely related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalin flocculation and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has not been reported in other patients taking prolonged courses of the medication. Patients with chronic infection have been given 1 to to 2 Gm. of the drug daily for periods of two to six months, and patients with rheumatic fever have taken prophylactic doses of 0.5 Gm. daily for two years without difficulty. In one group of 144 patients who received the drug daily for two years, no jaundice was noted. It was of interest that members of six of these patients' families, who were not taking the drug, had episodes of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels were determined in a group of fifty-four adults and children who took 250 mg. of Ilosone daily for an average of sixteen months as rheumatic fever prophylaxis. The results were compared with those of a similar group of forty-four patients who received penicillin. There were no cases of jaundice in either group. Elevation of SGPT and serum alkaline phosphatase levels during the course of treatment was observed in one patient treated with Ilosone and in two patients treated with penicillin. Seven other patients in the group receiving Ilosone and four others in the penicillin group showed elevations in one of the tests at some time during administration of the drugs.

Very satisfactory therapeutic results, without toxicity, were reported in 102 pediatric patients who received short-term (ten day) courses of Ilosone in the treatment of streptococcus infections. Results of liver function tests in these patients were comparable to those in a similar control group who had received penicillin.

Gastro-intestinal disturbances not associated with hepatic effects are observed in a small proportion of individuals as a result of a local stimulating effect of the medication on the alimentary tract; however, the normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the use of erythromycin, there have been occasional reports of urticaria, skin eruptions, and, on rare occasions, anaphylaxis.

Administration and Dosage: Ilosone is administered orally.
Ilosone Pulvules®
Ilosone Chewable Tablets
Ilosone Drops
Ilosone, 125, for Oral Suspension

For infants and for children under twenty-five pounds of body weight, the usual dosage is 5 mg. per pound every six hours; for children twenty-five to fifty pounds, 125 mg. every six hours. (Tablets Ilosone Chewable should be chewed or crushed and swallowed with water.)

For adults and for children over fifty pounds, the usual dosage of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromycin therapy should be considered.

In the treatment of syphilis, the recommended total dosage is 20 to 30 Gm. given in divided doses for a period of ten to fifteen days. Close follow-up of the patient is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examinations of spinal fluid are recommended as part of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days is recommended. In the treatment of gonorrhea, patients with suspected lesion of syphilis should have a dark-field examination before receiving antibiotics, and monthly serologic tests should be made for a period of three months.

How Supplied: Pulvules Ilosone, Capsules, N.F., 125 and 250 mg. (equivalent to base), in bottles of 24 and 100.

Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to base) in bottles of 50.

Ilosone Drops, 5 mg. (equivalent to base) per drop, in 10-cc. size packages, with dropper calibrated at 25 and 50 mg.

Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equivalent to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size packages.

References: 1. Griffith, R. S., and Black, H. R.: Am. J. M. Sc., *247*:69, 1
2. Griffith, R. S., and Black, H. R.: Antibiotics & Chemother., *12*:398, 1
3. Hirsch, H. A., Pryles, C. V., and Finland, M.: Am. J. M. Sc., *239*:198, 196

Additional information available to physicians upon request.
Eli Lilly and Company, Indianapolis, Indiana 46206.

Lilly

There are 45,600* undetected diabetics in Virginia

Most of these are probably among patients over 40; the overweight; relatives of diabetics, and mothers of large babies. By the time polyphagia, polyuria, polydipsia, pruritus or other overt symptoms of diabetes appear, damage may have been done that could have been minimized. DEXTROSTIX® gives you a reliable blood-glucose estimate in 60 seconds.

Why Wait?

*Based on Statistical Report, U.S. Dept. Commerce, ed. 86, and Fisher, G. F., and Vavra, H. M.: Pub. Health Rep. 80:961 (Nov.) 1965.

Note: DEXTROSTIX is not meant to replace the more precise analytical laboratory procedures such as needed in glucose tolerance testing.

AMES COMPANY, Division Miles Laboratories, Inc., Elkhardt, Indiana, U.S.A. 42867

Ames

Posed by professional model.

You can't set her free. But you can help her feel less anxious.

You know this woman.

She's anxious, tense, irritable. She's felt this way for months.

Beset by the seemingly insurmountable problems of raising a young family, and confined to the home most of the time, her symptoms reflect a sense of inadequacy and isolation. Your reassurance and guidance may have helped some, but not enough.

SERAX (oxazepam) cannot change her environment, of course. But it can help relieve anxiety, tension, agitation and irritability, thus strengthening her ability to cope with day-to-day problems. Eventually—as she regains confidence and composure—your counsel may be all the support she needs.

Indicated in anxiety, tension, agitation, irritability, and anxiety associated with depression.

May be used in a broad range of patients, generally with considerable dosage flexibility.

Contraindications: History of previous hypersensitivity to oxazepam. Oxazepam is not indicated in psychoses.

Precautions: Hypotensive reactions are rare, but use with caution where complications could ensue from a fall in blood pressure, especially in the elderly. One patient exhibiting drug dependency by taking a chronic overdose developed upon cessation questionable withdrawal symptoms. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose; excessive prolonged use in susceptible patients (alcoholics, ex-addicts, etc.) may result in dependence or habituation. Reduce dosage gradually after prolonged excessive dosage to avoid possible epileptiform seizures. Caution patients against driving or operating machinery until absence of drowsiness or dizziness is ascertained. Warn patients of possible reduction in alcohol tolerance. Safety for use in pregnancy has not been established.

Not indicated in children under 6 years; absolute dosage for 6 to 12 year-olds not established.

Side Effects: Therapy-interrupting side effects are rare. Transient mild drowsiness is common initially; if persistent, reduce dosage. Dizziness, vertigo and headache have also occurred infrequently; syncope, rarely. Mild paradoxical reactions (excitement, stimulation of affect) are reported in psychiatric patients. Minor diffuse rashes (morbilliform, urticarial and maculopapular) are rare. Nausea, lethargy, edema, slurred speech, tremor and altered libido are rare and generally controllable by dosage reduction. Although rare, leukopenia and hepatic dysfunction including jaundice have been reported during therapy. Periodic blood counts and liver function tests are advised. Ataxia, reported rarely, does not appear related to dose or age.

These side reactions, noted with related compounds, are not yet reported: paradoxical excitation with severe rage reactions, hallucinations, menstrual irregularities, change in EEG pattern, blood dyscrasias (including agranulocytosis), blurred vision, diplopia, incontinence, stupor, disorientation, fever, euphoria and dysmetria.

Availability: Capsules of 10, 15 and 30 mg. oxazepam.

To help you relieve anxiety and tension

Serax® (oxazepam)

Wyeth® SERVICE TO MEDICINE

Wyeth Laboratories
Philadelphia, Pa.

ECONOMICAL!

cream and ointment

Additional information available to physicians upon request.

Eli Lilly and Company, Indianapolis, Indiana 46206.

600811

The Virginia
MEDICAL MONTHLY

April, 1967
Vol. 94, No. 4
Whole No. 1379

Guest Editorial....

Regulating the Practice of the Healing Arts

THE NUMBER OF DOCTORS licensed in Virginia has increased year by year. As an example, in 1961 our registration showed 4,245 doctors practicing in Virginia and in 1966 the registration showed 5,327 doctors practicing in Virginia. The number of doctors licensed in Virginia in 1966 was 641. The number licensed by examination was 386 and the number licensed by endorsement was 255. These figures do not mean that we increase the number of doctors practicing in Virginia in one year by 641. About 150 of these were recent graduates who will follow postgraduate training for one to five years before entering practice and not all of them will practice in Virginia. It is interesting to note, however, that there is a steady growth in the number of doctors practicing in this Commonwealth and a gradual decrease in the patient load per physician. The 1961 population was estimated at 3,983,000 with 4,235 doctors, which is 938 patients per doctor. The 1966 population was estimated at 4,539,000 with 5,327 doctors, which is 852 patients per doctor.

The last General Assembly passed several bills affecting the licensure of physicians and affecting the disciplinary powers of the State Board of Medical Examiners. These changes in the Medical Practice Act went into effect July, 1966. We can now evaluate some of the changes and what they will mean to the medical profession in Virginia. Licensure of clinical psychologists by the State Board of Medical Examiners will not go into effect until July 1, 1967. After this date all of those psychologists who have been or will be engaged in maintaining an office and seeing patients for a fee will be licensed and come under the jurisdiction of the State Board of Medical Examiners. The law also added a clinical psychologist as a member of the Board of Medical Examiners.

The changes under which we have operated for six months have to do mostly with the disciplinary powers of the Board. A most important change in the code allows the president of the Board of Medical Examiners to appoint committees of three Board members to investigate reports of unethical conduct of physicians. These committees make an "on the scene" investigation. A committee of the Board has the power to then reprimand and censure a doctor or to place his license on probation. The doctor has prior knowledge of the charges and the right to

be heard with or without his attorney present. If he is dissatisfied with the decision of the committee, he has the right to appeal the matter to the entire Board. In the six months period July 1 to December 1, 1966, there were seven cases handled in this manner, all resulting in probation of licenses and all accepted by the doctors involved. Prior to July of this year the Board had authority only to have a formal hearing in a legal manner before the entire Board and there has been only one such hearing in thirteen years.

Another important change gives the Board the obligation to declare a doctor physically or mentally unfit for practice whenever such a situtution arises. It also requires every doctor in Virginia to report to the Board any physician patient under his care who has become a menace to his patients and the public by drug addiction or physical or mental illness.

The Board of Medical Examiners is a composite board covering all of the healing arts. The members are appointed by the Governor, each for a five year term and each can serve an additional five year term if reappointed. The membership of the Board consists of the following:

Joseph E. Gladstone, M.D., President, Exmore
W. W. Zimmerman, III, M.D., Vice-President, Richmond
R. M. Cox, M.D., Secretary-Treasurer, Portsmouth
Earnest B. Carpenter, M.D., Richmond
George B. Craddock, M.D., Lynchburg
A. Tyree Finch, M.D., Farmville
Walter C. Fitzgerald, M.D., Danville
Robert C. Green, Jr., M.D., Winchester
James B. Hutt, Jr., M.D., Warrenton
James L. Chitwood, M.D., Pulaski
Howard O. Mott, M.D., Arlington
Felix D. Swope, D.O., Alexandria
Milton D. Cummins, D.S.C., Richmond
Carl B. Miller, D.C., Front Royal
Moir F. Bowman, D.N., Arlington
William E. Harris, Ph.D., Richmond

R. M. Cox, M.D.

509 Professional Building
Portsmouth, Virginia

Some Radio-Diagnostic Notes on Pneumomediastinum, Pneumothorax, and Pneumopericardium

CHRISTIAN V. CIMMINO, M.D.
Fredericksburg, Virginia

The x-ray diagnosis of air in the pleural cavity, pericardial cavity, or mediastinum is not always easy and, to be accurate, one must be aware of subtle and often unappreciated signs.

THIS PAPER AIMS: (1) to sharpen certain concepts of mediastinal and pleural anatomy that might have grown fuzzy with passing time; (2) to show the value of seeking evidence for pneumothorax in the injured supine patient in the paracardiac regions rather than in the pulmonary apex and periphery; (3) to present two unusual retropleural extensions of pneumomediastinum; (4) to demonstrate with anatomic specifics why the paracardiac signs of pneumothorax and pneumomediastinum may be identical, and that the radiologic differentiation must be sought elsewhere; (5) to reinforce the interpretation, already widely accepted by clinicians beyond our shores, that Hamman's sign of mediastinal crunch, far from being pathognomonic of pneumomediastinum, much more commonly indicates a shallow left paracardiac pneumothorax; (6) to evaluate, in light of mediastinal anatomy, certain recent papers purporting to illustrate pneumopericardium, a rare disease, and to evaluate its relation with pneumomediastinum.

CIMMINO, CHRISTIAN V., M.D., *Clinical Professor, Radiology, Medical College of Virginia.*

Anatomy

The primitive state of both pleural and pericardial cavities may be likened, with license, to three underinflated serous sacs (one for the pericardial and two for the pleural cavities) in a bed of connective tissue, the mediastinal matrix. If one indents each of these sacs with his finger, he invaginates one side until both sides are approximated. That side nearer his finger is the visceral layer; the other side is the parietal layer. The point of turning into each other at the base of the finger is the reflexion. The space between the two layers, potential or real, is the pleural or pericardial cavity. In the case of the pleural sac, the invaginating finger represents the bronchi, pulmonary vessels and lungs; in the case of the pericardial sac, the finger represents the aorta and pulmonary vessels merging into the heart. The pericardial parietal layer develops a strengthening external layer of fibrous tissue, the fibrous pericardium. The potential connection of each of these sacs (at the base of the invaginating finger) with the mediastinal matrix, and hence, with each other, persists in the mature state. The connective tissue of neck, mediastinum and retroperitoneum forms one vast continuum; gas or infection is free to travel in any direction.

In the mature state the pleural and pericardial cavities are in essential contact, but still separated by a plane of mediastinal connective tissue that houses the phrenic nerves, the pericardiocophrenic vessels and more or less fat at the cardiophrenic angles, the epipericardial fat pads. This plane is a potential course for dissecting gas and is the site of the paracardiac stripes of gas noted

with pneumomediastinum. When the gas is paracardiac but within the pleural cavity, an indistinguishable appearance results, the fine hair-line of soft tissue density just lateral to the air-stripe being composed in this case of one pleural surface (visceral) rather than the two pleural surfaces (visceral and parietal) in the case of mediastinal emphysema. The difference of one pleural surface is not roentgenologically determinable (figs. 1, 2).

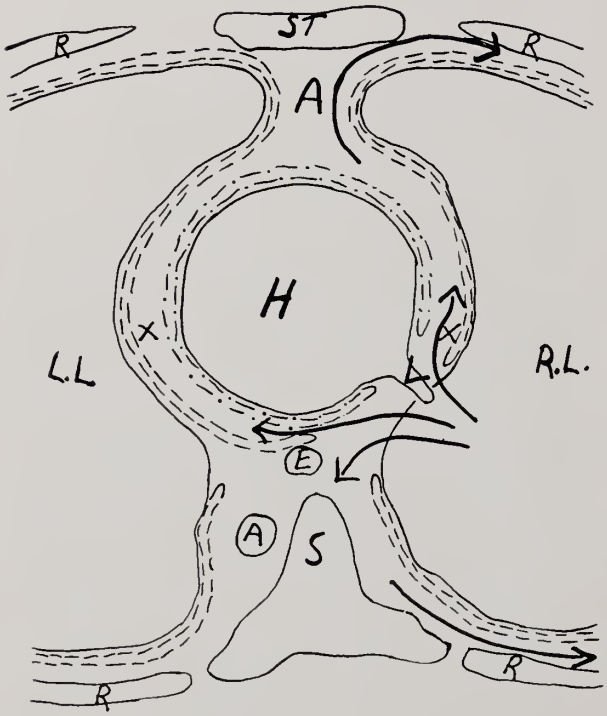


Fig. 1. Diagram to show how pneumomediastinum can extend into the retropleural tissues: Upper A, anterior mediastinum; Low A, aorta; E, esophagus; H, heart; L.L., left lung; R, rib; R.L., right lung; S, spine; ST, sternum; V, right pulmonary vein; X, middle mediastinum; dot-dash, the two layers of serous pericardium; dash-dash, the two layers of serous pleurae; the three middle arrows show how air can dissect along the pulmonary vessels from the lung into the middle or posterior mediastinum; the upper arrow shows the path of air from the anterior mediastinum into the retropleural spaces (similar path from the mediastinum into the retropleural space above the diaphragm); the lower arrow shows the path of air from the posterior mediastinum into the retropleural space.

Air may reach the pleural space either by direct entrance from the lung through the visceral pleura or by entrance from the mediastinum through the parietal pleura. Study of this diagram explains why pneumothorax and pneumomediastinum may be essentially identical roentgenologically, how pneumopericardium may superficially resemble the first two, and what tissues comprise the roentgenologically detectable line in these three conditions.

When an alveolus ruptures under certain conditions, air dissects through the perivascular pulmonary tissue to reach the mediastinum. The pressure gradient between the interstitial tissue of the lung and the mediastinum is said to prevent flow in the opposite direction. Air reaches the pleural cavity from the mediastinum by a break in the mediastinal covering (parietal pleura), or from the lung by a break in the visceral pleura.[13]

Pneumothorax

The roentgenologic diagnosis of pneumothorax in the ambulatory patient offers few difficulties that exposures in expiration and in the appropriate decubitus with horizontal ray cannot resolve. Not so with the severely injured patient whose roentgenologic examination of the chest is usually confined to a single supine view in a random phase of respiration because of the patient's condition. The diagnosis of pneumothorax under such conditions may be difficult.

In the supine patient free pleural gas is expected to migrate anteriorly. Therefore, rather than the more posterior pulmonary apex or periphery, the paracardiac pleural spaces may harbor minor clues of gas, such as barely perceptible patches of radiolucence bordered medially by the "heart" and laterally by the visceral pleura, and such as unusal sharpness of the cardiac border (fig. 3).

Pneumomediastinum

Pneumomediastinum is usually secondary to traumatic, surgical, or infections causes in the neck, lung, retroperitoneum or within the mediastinum itself. The so-called spontaneous type presents no overt cause, but the mechanism suggested by Macklin probably is operative as in those other causes with obvious pulmonary abnormality: rupture of an alveolus with dissection of air along the perivascular tissue planes into the mediastinum. The incontrovertible diagnosis depends on: (1) the clinical presence of gas in the soft tissues of the neck in the

absence of any local cause, (2) the *rigorous* roentgenologic interpretation of gas within the mediastinum.

The paracardiac radiolucent stripes, it has already been noted, may be identical in pneumothorax and pneumomediastinum, and only additional findings in the latter will permit its diagnosis. Findings on the lateral chest roentgenogram of vertically disposed streaks of gas, of finely etched delineation of the great vessels, of cervical prevertebral gas are all well known. The value of retrosternal gas unless in well defined streaks is limited because pulmonary overinflation and pneumothorax may be confusing. Not widely known is the gaseous streak over the diaphragm (figs. 1, 4, 5) that must result from air dissecting from the mediastinum into the retropleural connective tissue continuum, elevating the diaphragmatic parietal pleura. I have noticed this only in babies, and the explanation must lie in the loose attachments of the pleura in this age,[10] not yet having suffered the formation of adhesions from the wear and tear of prolonged living in noxious environments.

Lillard and Allen[11] have just described much more massive accumulations of retropleural air over the diaphragm in pneumomediastinum. It is likely that their findings and ours are variants.

Hamman's sign of mediastinal crunch: Hamman[8] described several patients with unprovoked chest pain, whose physical examination was characterized by a peculiar sound over the mediastinum, a crunch, once heard never forgotten, most prominent in systole, and loudest with the patient on his left side. The prognosis was excellent. In his group of seven patients, two had subcutaneous emphysema in the neck, thus proving the pneumomediastinum. Two had a small left pneumothorax. The roentgenologic evidence for pneumomediastinum consisted of a sharp distinct line running parallel to the border of the heart, now recognized to be consistent with a medial pneumothorax as well as with pneumomediastinum. Since the mediastinal crunch was identical in all these cases, Hamman lumped them together as cases of spontaneous pneumomediastinum. Although his cases presented the pneumothorax only on the left, he saw no reason why the gas from the mediastinum should not rupture into each pleural space with equal frequency. Experience has shown his prediction wrong,

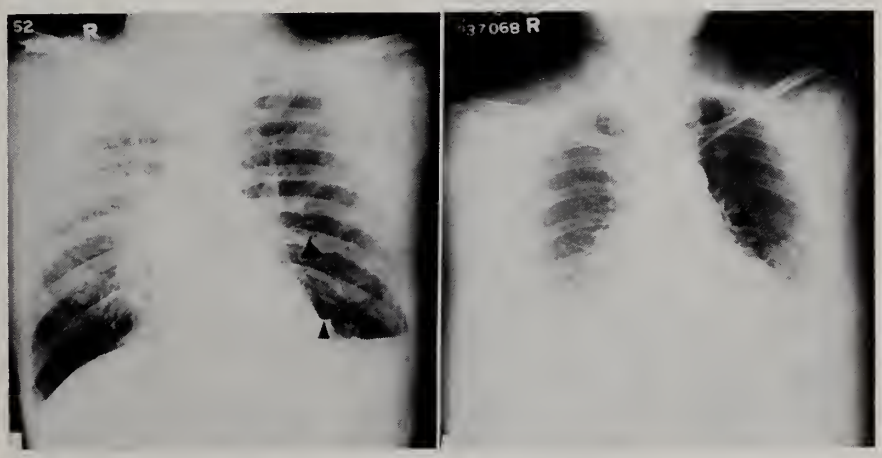


Fig. 2. The paracardiac hair-line may be indistinguishable in pneumomediastinum and pneumothorax. (A) Traumatic pneumothorax: the upper arrow indicates the hair-line made up of visceral pleura; this line can not be pericardium because it is too thin and extends well up the aortic knuckle; lower arrow indicates a small effusion localized in the medial pleural space, again mimicking pericardial site. (B) Extensive retroperitoneal, mediastinal and cervical emphysema from injury to gut during urological surgery: the hair-line is essentially identical to that in (A), but this line must be composed of visceral and parietal pleurae. (Courtesy of Dr. E. J. Keeffe, Pontiac, Michigan.)

and that the pneumothorax in spontaneous pneumomediastinum is almost without exception on the left side and is shallow. It will be noted that gas in experimental pneumomediastinum ruptures into each pleural space with equal frequency. The concept of the mediastinal crunch as a pathognomonic sign of pneumomediastinum became so firmly implanted that even Sosman[14] published a case as mediastinal emphysema, whose sole roentgenologic abnormality was a shallow left pneumothorax, just because the patient presented a striking mediastinal crunch. Largely through efforts of certain clinicians[4,17,18,19] significant differences between unquestioned pneumomediastinum (usually the secondary variety, commonly with subcutaneous gas) and the group of spontaneous pneumomediastinum were delineated, though both groups may present the crunch. The common denominator for the production of the crunch appears to be the vigorous beating of the left-sided cardiac ventricular mass setting into motion a small amount of nearby gas. Thus is explained the crunch in the presence of true pneumomediastinum, of shallow left pneumothorax with paracardiac localization (which probably represents most of the reported cases of spontaneous mediastinal emphysema), of an esophagus dilated with air, of bullous emphysema of the lingula of the left upper lobe, of tense pneumoperitoneum, and of gastric dilatation.[4] The final

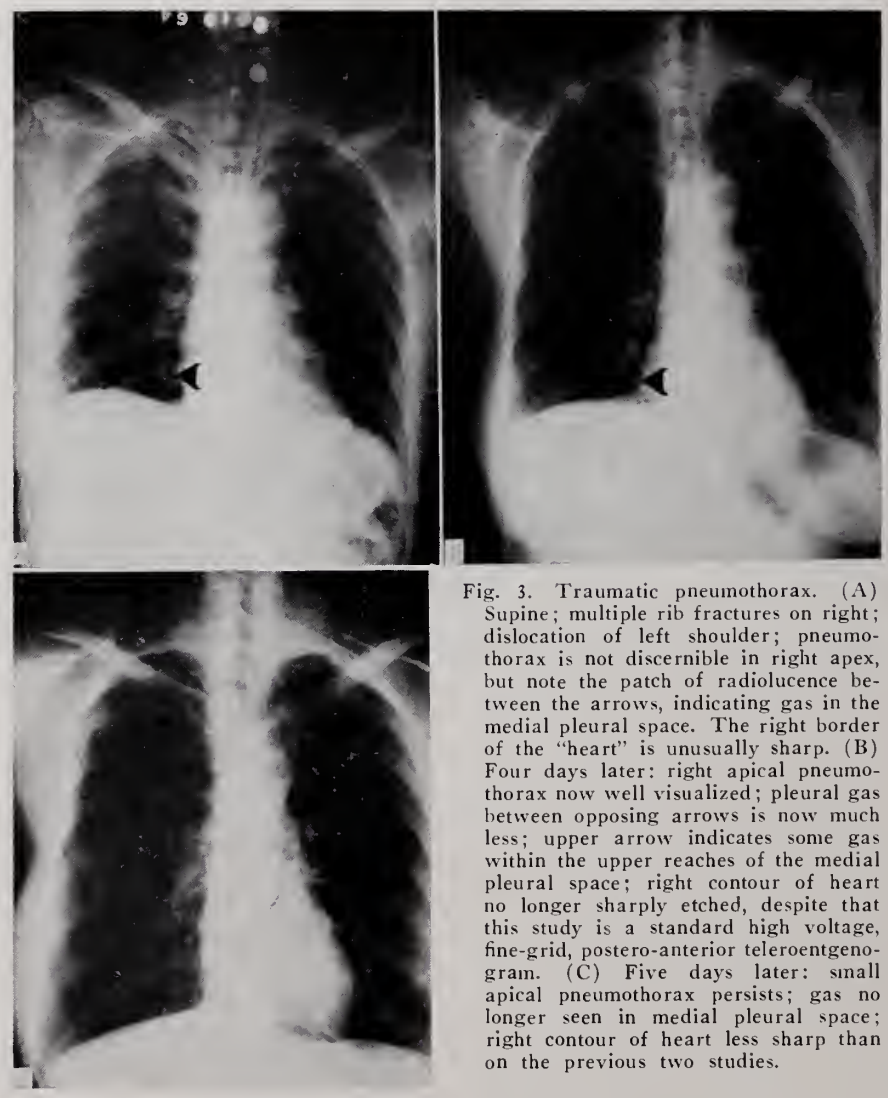


Fig. 3. Traumatic pneumothorax. (A) Supine; multiple rib fractures on right; dislocation of left shoulder; pneumothorax is not discernible in right apex, but note the patch of radiolucence between the arrows, indicating gas in the medial pleural space. The right border of the "heart" is unusually sharp. (B) Four days later: right apical pneumothorax now well visualized; pleural gas between opposing arrows is now much less; upper arrow indicates some gas within the upper reaches of the medial pleural space; right contour of heart no longer sharply etched, despite that this study is a standard high voltage, fine-grid, postero-anterior teleroentgenogram. (C) Five days later: small apical pneumothorax persists; gas no longer seen in medial pleural space; right contour of heart less sharp than on the previous two studies.

shred of evidence for the relation of left pneumothorax to mediastinal crunch is its presence in induced pneumothorax.[18] Only rarely is the crunch noted in right pneumothorax[19] probably because of the less vigorously pulsating atrial mass.

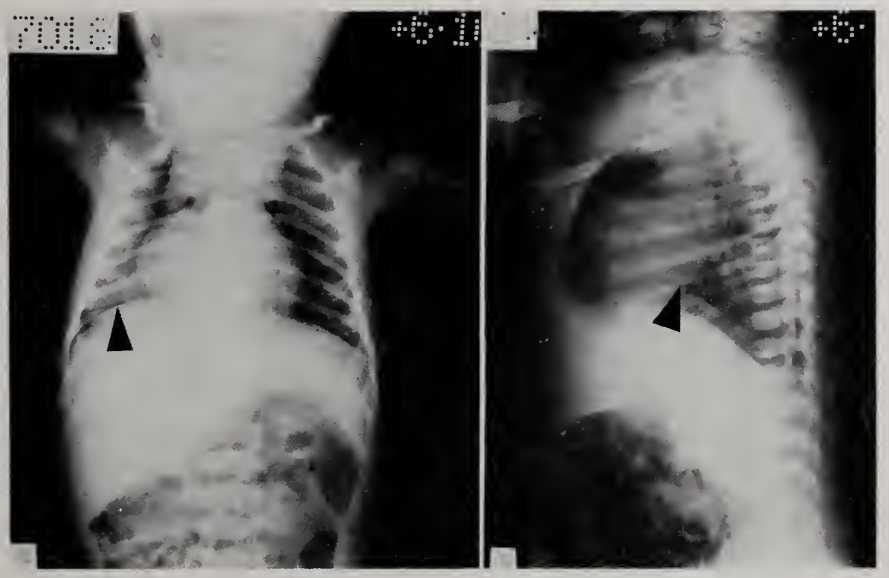


Fig. 4. Newborn with mild respiratory distress; large amount of gas within the anterior mediastinum delineating the thymus; the arrows indicate the diffusion of gas along the contour of the right hemidiaphragm, consistent with retropleural site; chest normal 5 days later.

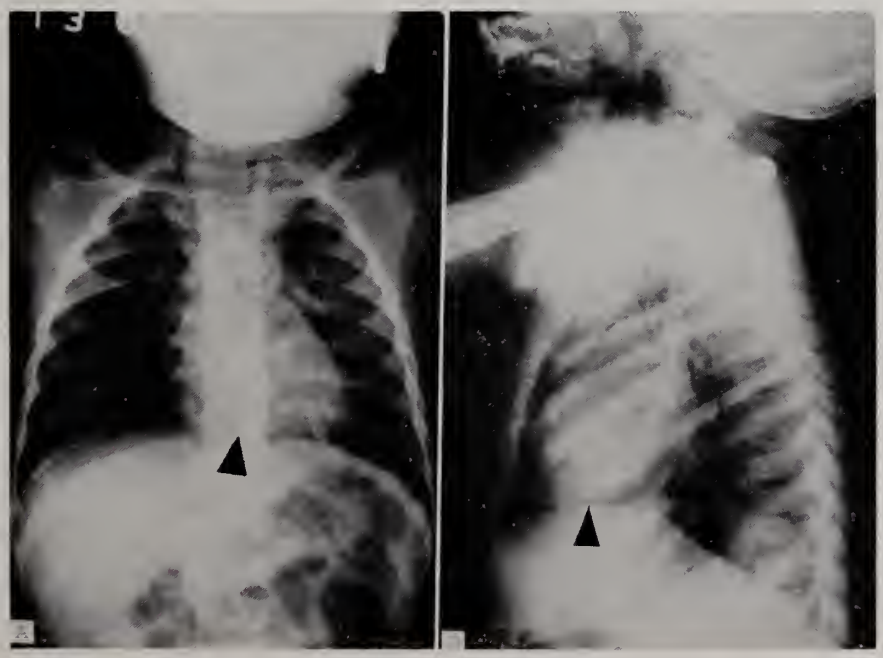


Fig. 5. Bronchoscopic removal of crayon from trachea of an eleven month old child the day before: pneumomediastinum is obvious but note the gas around the inferior border of the "cardiac" shadow; gas is not within the pericardial cavity but is extrapericardial.

Pneumopericardium

Pneumopericardium, a rare disease of which only some 100 cases have been culled from the literature, results from open or closed trauma, and infectious, peptic or neoplastic disease in either the chest or the

abdomen. Aside from the traumatic, pneumopericardium is almost invariably associated with infection regardless of the cause,[5] and the much thickened pericardium combined with the stripe of middle mediastinum and the two pleurae as defined by gas within the pericardial cavity medially and within the lung laterally, closely mimics no other structure. Good roentgenologic illustrations of either the closed or open traumatic pneumopericardium are uncommon not only because of the rarity of the disease itself but because of the frequency of sudden death, and because of the clinical exigencies precluding extensive roentgenologic examination. Figure 6, an

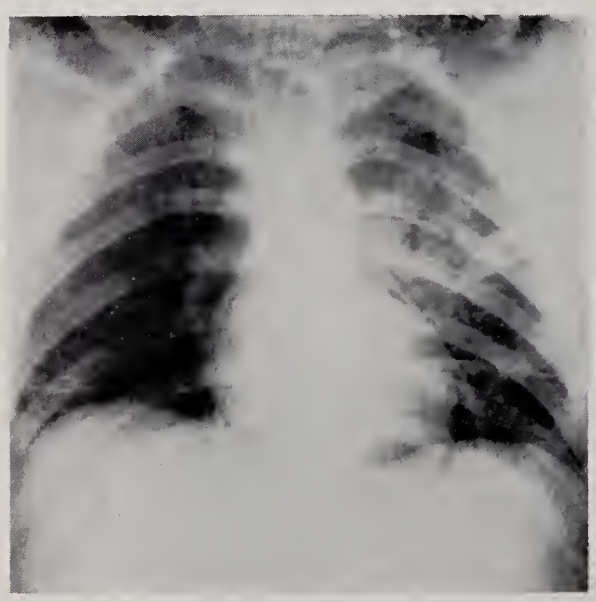


Fig. 6. Pneumopericardium from open trauma: note the left paracardiac soft-tissue stripe of material thickness extending only partially on the vascular pedicle. (Reproduced with permission from Nelson, C. S., Brit. J. Dis. Chest, 1965, 59, 41-46.)

example of the open traumatic variety, demonstrates lucidly the normal pericardium with its associated soft-tissue structures: a more or less straight stripe of soft-tissue, much thicker than any two approximated normal pleurae, and extending only partially upon the aortic arch, this extension being consistent with the anatomic level of the pericardial reflexion.[15]

Against these criteria, the case reported by Ackerman and Alden as the first example of pneumopericardium as a complication of bone marrow puncture[1] is difficult to accept. Pneumomediastinum, in my opinion, better explains the findings: from study of the reproductions it appears that the paracardiac stripe is too narrow for pericardium and affixed middle mediastinum and pleural surfaces, and that it extends too high on the great vascular pedicle for pericardium.

Examples from the literature purporting to demonstrate pneumopericardium originating from a pneumomediastinum or pneumothorax are difficult to accept. Such is the case of Hines and Kessler,[9] reported as the first example of pneumopericardium as a complication of a presacral air injection: only a frontal view of the chest is presented, and from the reproduction it appears that the left-sided paracardiac stripe is too fine and extends too high upon the arotic arch for pericardium and adjacent structures. The crepitation in the patient's supraclavicular areas proves a pneumomediastinum, and to this observer, the roentgenologic findings are better explained by pneumomediastinum.

Rosen, Vaudagna and Jamplis[16] report a case of spontaneous pneumopericardium in a young man who was severely injured in an automobile accident. His pneumomediastinum was confirmed by the subcutaneous gas in the neck. Again, the reproductions include no lateral studies, and the high extension of the paracardiac stripe upon the great vessels could well represent his pneumomediastinum, or a pneumothorax, or both.

Dombroski and Siems[6] reported a thrice recurring pneumopericardium as a complication of repeated spontaneous pneumothorax in a young man. Their adjectives describing the pericardium as "fine" and "hair-line" raise doubt that a pneumopericardium was really demonstrated. Our figure 5 indicates that their statement that the inferior ventral heart border is not separated from the diaphragm in mediastinal emphysema but is in pneumopericardium is not

always true. Much of the attachment of the fibrous pericardium to the diaphragm consists of loose fibrous tissue which can be readily broken down, and it is over only a small area that the central tendon of the diaphragm and the pericardium are completely fused.[7] The gas from the mediastinum infiltrates this loose tissue.

Is pneumopericardium ever secondary to pneumomediastinum? It will be recalled that the visceral enclosures of both pericardial and pleural cavities are continuous with the mediastinum, hence, through the mediastinum, with each other. Thus, there is the anatomic anlage for passage of gas from the pulmonary interstitium, to the mediastinum and to the pericardial cavity, either by way of subepicardial (the visceral pericardium) dissection, or of subparietal pericardial dissection, thence with perforation into the pericardial cavity. Note, however, that in Macklin's experiments air from the pulmonary alveoli traveling to the mediastinum never reached the pericardial cavity. Loftis, Susen, Marcy, and Sherman[12] report six cases of pneumopericardium in infants all under five months of age, resulting from injudicious use of a mechanical respirator with presumed entry of gas into the pericardial cavity from the mediastinum. These cases were proved either by surgery or autopsy. Since no case was observed in older children, it is possible that the young infant's layers of serosal pericardium are unusually susceptible to dissection and rupture.

Barbaccia[2] described a case of pneumomediastinum and pneumopericardium following bronchopneumonia and emphysema in a two month old child, confirmed by autopsy. The path of air from the mediastinum into the pericardium was not demonstrated; Barbaccia presumed a "minimal discontinuity" of pericardium. His adjectives of "fine" and "capillary" applied to the shadow of pericardium might cause some doubt that the pneumopericardium was roentgenologically demonstrated, despite its presence verified by section.

Summary and Conclusions

1. Paracardiac accumulations of gas or an exceptionally etched quality of the cardiac border may be the only sign of a pneumothorax in the supine patient in whom gas would be expected to migrate anteriorly.

2. An identical roentgenologic appearance can be found in pneumomediastinum and pneumothorax. The gas in the latter is lodged between parietal (mediastinal) and visceral pleura, and in the former between fibrous pericardium and parietal pleura; the fine soft-tissue stripe is therefore composed of only the visceral pleura in pneumothorax, but both pleural layers in pneumomediastinum; hence their roentgenologic similarity. Additional confirmatory signs of pneumomediastinum are clinical (crepitus in the neck) and roentgenologic (vertically disposed streaks of gas and unusual clarity of the outlines of the great vessels on the lateral view of the chest, and unusual retropleural extensions of gas).

3. Hamman's mediastinal crunch is not pathognomonic of pneumomediastinum, but found as well in other conditions where there is a localized collection of gas near the vigorously beating ventricular mass, such as shallow left pneumothorax, which is without a doubt the commonest cause of the crunch.

4. Pneumopericardium is a rare disease. Those associated with open injury, neoplastic, peptic or infectious diseases of the thoracic and abdominal organs offer no diagnostic problems. Those associated with closed injury or with gas infiltrating from the mediastinum should be diagnosed only with full consideration of the thickness of the normal parieto-fibrous pericardium with its associated soft-tissues, and of the height of its reflection on the aorta and pulmonary artery. Many of the cases so diagnosed are probably pneumomediastinum. Pneumopericardium and pneumomediastinum do coexist in young infants especially from injudicious use of mechanical respirators and from pulmonary infection.

References

1. Ackerman, J. L., and Alden, J. W.: Pneumopericardium Following Sternal Bone Marrow Aspiration. Radiology 70: 408-409, 1958.
2. Barbaccia, F.: Su di un Caso di Pneumopericardio Consecutivo ad Enfisema Interstiziale Pulmonare. Osped. Maggiore 48: 88-94, 1960.
3. Binder, L.: Beiträge zur Differentialdiagnostik des Spontanen Pneumopericards. Fortschr. auf dem Geb. der Röntg. 86: 40-44, 1957.
4. Chapman, J. S.: Spontaneous Irruption of Air from the Lung. Am. J. Med. 18: 547-556, 1955.
5. Dassel, P. M. and Kirsh, I. E.: Non-Traumatic Pneumopericardium and Pyo-Pneumopericardium. Radiology 63: 346-352, 1954.
6. Dombrowski. H., and Siems, O. H.: Pneumoperikard bei Spontanpneumothorax. Med. Klin. 58: 15-18, 1963.
7. Gray, H.: Anatomy of the Human Body. Lea & Febiger, Publisher, Philadelphia, Twenty-third Edition.
8. Hamman, L.: Mediastinal Emphysema. The Frank Billings Lecture. J.A.M.A. 128: 1-6, 1945.
9. Hines, J. J., and Kessler, D. L.: Pneumopericardium. A Complication of Presacral Air Insufflation. Quart. Bull. Northw. Univer. Med. School. 35: 316-317, 1961.
10. Howell, A. B.: Gross Anatomy. D. Appleton-Century Company, Publishers, New York.
11. Lillard, R. L., and Allen, R. P.: The Extrapleural Air Sign in Pneumomediastinum. Radiology 85: 1093-1098, 1965.
12. Loftis, J. W., Susen, A. F., Marcy, J. H., and Sherman, F. E.: Pneumopericardium in Infancy. Am. J. Dis. Child. 103: 61-65, 1962.
13. Macklin, C. C.: Transport of Air Along Sheaths of Pulmonic Blood Vessels from Alveoli to Mediastinum. Arch. Int. Med. 64: 913-926, 1939.
14. Morey, J. B., and Sosman, M. C.: Spontaneous Mediastinal Emphysema. Radiology 32: 19-22, 1939.
15. Nelson, C. S.: Rare and Interesting Cases. Two Cases of Injury to the Heart and Great Vessels. Brit. J. Dis. Chest 59: 41-46, 1965.
16. Rosen, A., Vaudagna, J., and Jamplis, R. W.: Spontaneous Pneumopericardium. Am. Rev. Resp. Dis. 87: 764-765, 1963.
17. Scadding, J. G., and Wood, P.: Systolic Clicks Due to Left-Sided Pneumothorax. Lancet 2: 1208-1211, 1939.
18. Scott, J. T.: Mediastinal Emphysema and Left Pneumothorax. Dis. Chest 32: 421-434, 1957.
19. Semple, T., and Lancaster, W. M.: Noisy Pneumothorax. Observations Based on 24 Cases. Brit. Med. Journal 1: 1342-1346, 1961.
20. Wright, J. T.: The Radiological Sign of "Clicking" Pneumothorax. Clin. Rad. 16: 292-294, 1965.

Mary Washington Hospital
Fredericksburg, Virginia

Ophthalmologist-Optometrist Cooperation Outlined

An ophthalmologist may employ an optometrist to assist him, and physicians may teach in recognized schools of optometry, the Judicial Council of the American Medical Association has ruled. The Council said, however, the ophthalmologist (a medical doctor who specializes in eye care) has an ethical responsibility to make sure patients will not be given the impression the optometrist is also a doctor of medicine.

The opinion, reported in The AMA News, was announced by E. G. Shelley, M.D., North East, Pa., Council chairman.

The statement added that physicians may teach in schools of optometry for the purpose of improving the quality of optometric education.

The scope of this teaching may embrace subjects within the legitimate scope of optometry which are designed to prepare students to engage in optometry within the limits prescribed by law.

Acute Rhabdomyolysis with Myoglobinuria

BERNARD H. MILLER, M.D.
JEROME S. GROSS, M.D.
Norfolk, Virginia

This sometimes fatal syndrome may have an obvious or an obscure etiology. The present knowledge is reviewed.

NECROSIS OF SKELETAL MUSCLE may occur as an acute phenomenon which ushers in a dramatic illness! It may also occur in an insidious form. Acute rhabdomyolysis is the condition exhibited by the patient to be described, and it is the condition we wish to elucidate. The consequences of skeletal muscle necrosis include:

1. The liberation of intracellular muscle constituents into the blood stream; high blood levels of intramuscular enzymes and myoglobinuria are the best documented. Creatinuria also occurs.
2. Muscle weakness and pain; repair may apparently be complete or may leave residual muscular weakness and even a muscular dystrophy.
3. Systemic manifestations of fever and leucocytosis.
4. Myoglobinuric nephrosis with reversible and irreversible renal injury, including death fom renal insufficiency.
5. Characteristic myodystrophic electromyographic changes with fewer potentials and these polyphasic and of low amplitude.

Acute rhabdomyolysis is a clinical syndrome. The etiology in some cases is obvious; in others the apparent etiology may still require some underlying intracellular muscle abnormality for its expression; in many cases the etiology is elusive. Some of the reported causes of rhabdomyolysis include:

1. Crush injury of muscle[2]
2. Occlusion of a major extremity artery[3]
3. Electroconvulsive therapy[4]
4. Post-ictal[5]
5. Polymyositis[5]
6. Muscular dystrophy[5]
7. Barbiturate intoxication[6]
8. Alcoholic intoxication[7]
9. Diabetic ketoacidosis[8]
10. Muscular exertion, as in prolonged marching[5]
11. Infection[9]
12. Malayan fishermen bitten by the sea snake Enhydrina Schistosa[10]
13. Haff's disease-ingestion of eels which had ingested wastes from cellulose manufacture[11]
14. Hereditary absence of muscle phosphorylase (McArdle's Syndrome; McArdle-Schmid-Pearson disease; Myophosphorylase deficiency; Glycogenosis Type 5; Glycogen Storage Disease of Cori)[12]

As one peruses this list of diverse exciting agents he is struck by the fact that in some of these causation is readily explainable; *viz.*, crush injury of a large mass of skeletal muscle, occlusion of a major nutrient artery with secondary ischemic necrosis of a large mass of skeletal muscle, polymyositis or muscular dystrophy in which diffuse rhabdomyolysis is a consequence of the underlying muscle pathology, post-ictal and post-electroconvulsive therapy in which

presumably tetanic muscle contraction induces muscle necrosis, the ingestion of myotoxins. However, in such diverse excitants as alcoholic intoxication, barbiturate intoxication, diabetic ketoacidosis, many cases of march rhabdomyolysis, infections, one suspects that these patients may have had an underlying intracellular muscle abnormality rendering them susceptible to the muscle necrosis. This suspicion, moreover, must remain such until more meticulous studies have been performed in such patients. We do know that muscle exercise, infections, lack of readily available glucose during muscle contraction are all precipitants of rhabdomyolysis in many susceptibles.

When one exhausts these reported causes of acute rhabdomyolysis, we are still left with a mixed group of cases classified as idiopathic. These idiopathic cases run the gamut of ages. Some are sporadic in occurrence, others hereditofamilial and even associated with cases of definable muscular dystrophy in family members. The delineation of hereditary absence of muscle phosphorylase as a well-defined cause of rhabdomyolysis has given great impetus to the study of intermediate skeletal muscle metabolism. It is, therefore, worthwhile to review briefly this condition. In 1951 Bryan McArdle[12] recognized that this disease was due to an inability to breakdown skeletal muscle glycogen to lactic acid. In 1959 Schmid and Mahler,[14] and Mommaerts et al.[15] demonstrated that the glycogenolytic defect was secondary to a deficiency of muscle phosphorylase. A review of the schema of glycogen degradation is seen in table 1. The important role of phosphorylase in glycogen breakdown is obvious. This enzymatic defect is inherited as a single autosomal gene.[17] During exercise lactic acid is not formed; this is determined in a presumptive test for this defect.[18] Confirmation is by muscle biopsy which establishes the absence of muscle phosphorylase and the presence of a characteristic histologic appearance of increased muscle glycogen, frequently contained in subsarcolemmal blebs.[12,18] The clinical spectrum can be divided chronologically:[14]

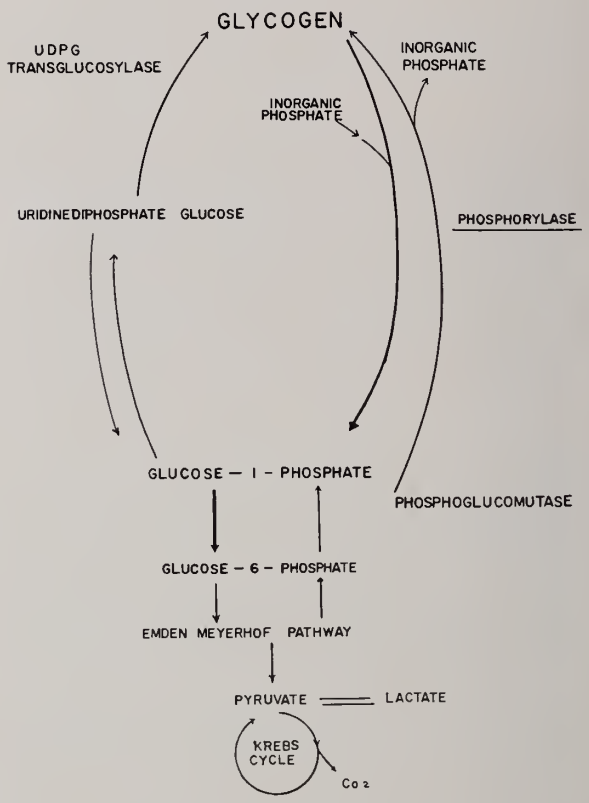


Fig. 1

Childhood and adolescence: easy muscle fatigability and intermittent dark urine.

Early adult life: cramping muscle pains on exertion occasionally followed by transient myoglobinuria.

Fourth and fifth decades: persistent and progressive weakness and wasting of proxymal muscle with absent or rare myoglobinuria. Tachycardia, dyspnea, and electrocardiographic T-wave changes and conduction defects may accompany.[19]

The treatment, wholely symptomatic, consists of fructose, 30-45 grams, by mouth prior to exercise, I.M. glucagon, glucose lozenges, avoidance of constricting garments.[12,18]

In the group of idiopathic rhabdomyoleses, no deficiency in muscle phosphorylase has been demonstrated. Forvara, et al.,[20] demonstrated elevated phosphorylase activity in the muscle of one child. Quantitation

of glycogen, lactic acid, amylo-1-6-glucosidase, UDPG glycogen synthetase, aldolase, alpha glycerophosphate dehydrogenase, pyruvate kinase, malic dehydrogenase and lactic dehydrogenase, revealed normal or explainable low values for these materials. They concluded that the unknown mechanism of muscle damage might be related to rates of glycogen breakdown. Hing et al.[16] found elevated blood lactic acid following exercise and sodium lactate infusion and suggested the possibility that abnormalities may exist in metabolic reactions of the Krebs cycle. Kontos et al.[21] in their case found that a large portion of muscle energy was derived from anaerobic metabolism and suggested the presence of uncoupling of oxidative phosphorylation in skeletal muscle during exercise. Much basic work remains to be done in separating and defining the idiopathic rhabdomyolyses.

The pathology of skeletal muscle in this disease has been defined by light and electron microscopy.[1,5,22] There is variation in muscle staining with swollen cloudy fibers, focal coagulation necrosis with replacement of striated muscle by eosinophilic granular material, ruptured sarcolemma. Proliferation of sarcolemmal nuclei and presence of giant cells succeeds the acute phase. On electron microscopy one observes swollen sarcomeres and extensive obscuration of the double membraned cristae adjacent to normal appearing areas.

This damage to metochondrial membranes is reflected biochemically in elevated serum levels of succinic dehydrogenase and creatine phosphokinase.[5,22] Elevated serum levels of glutamic oxalaloacetic transaminase, glutamic pyruvic transaminase, lactic dehydrogenase, aldolase, phosphohexose isomerase, malic dehydrogenase, and isocitric dehydrogenase also occur, reflecting release of these enzymes from damaged muscle cells.[5] High urine creatine levels also occurs with an attack.[1] The release of myoglobin also reflects the considerable disorganization of the cell membranes.[23] With a molecular weight of 17000, myoglobin is a protein one-quarter the size of hemoglobin. Not bound to haptoglobins and with a renal threshold of 20 mg%,[5] myoglobin is cleared rapidly from the plasma. When present in sufficient amounts, it imparts a red-brown color to the urine. Myoglobinuria was first described in 1920-24. Attempts to chemically define myoglobin are complex and the results controversial.[25] In paroxysmal rhabdomyolysis search for abnormal myoglobins and attempts to demonstrate the existence of fetal myoglobin, with the analogy to the hemoglobinopathies quite obvious, have thus far been fruitless.[26,27] Starch gel electrophoresis can be used to demonstrate myoglobin in urine.[28] The most commonly employed technique for its demonstration, however, remains spectroscopy. To five milliliters of urine are added a few crystals of sodium hydrosulfite; the urine is shaken, and this is examined with a hand spectroscope using a fluorescent lighting tube as the illumination source and observing the mercury doublet at 577-579 mu. Oxymyohemoglobin produces a distinctly off center band at 578 mu when compared to oxyhemoglobin. During an episode of rhabdomyolysis as much as 440 mg. of myoglobin has been demonstrated in the urine.[1] Myoglobinuria may induce myoglobinuric nephrosis, and this is the feared lethal potential in paroxysmal rhabdomyolysis.[1] Albuminuria, cylindruria, pyuria, hematuria reflects the nephron injury. Anuria and renal insufficiency may follow.

Attacks of rhabdomyolysis are often precipitated by muscle exercise and febrile infections.[1] The paroxysmal attack associated with exercise is said to occur only in males with the non-exertional type occurring in both sexes. However, Scarpelli et al. in 1963 reported a case of exertional myoglobinuria in a female. Attacks may begin in childhood or may not commence until adult life, even initially appearing in late decades. A typical attack is ushered in by muscle pain and fatigue, malaise, and often fever. If exertional, symptoms may commence during exercise or within a short period of stop-

ping. Initial symptoms are followed in a few hours by profound muscle weakness which is usually generalized.[1] The urine becomes red brown; this myoglobinuria is usually transient, but may persist for as many as three days.[1] Muscle power returns more slowly. Full recovery may occur in two-three weeks, but persistent muscle weakness may follow any attack.[1] Some patients are left with muscle atrophy severe enough to resemble a progressive muscular dystrophic process.[1] The associated myoglobinuric nephrosis gives the disease its feared lethal potential and emphasizes that this is not a benign disease.

Treatment is limited to rest during the acute episode, increasing fluid intake, and urine alkalinization. Return of serum enzyme levels to normal may be used as a guide to ambulation. Avoidance of exertion is advised in the exertion related type.[1] Pre-exercise glucose or glucagon have also been recommended.[21]

TABLE I

Date	December 25 1965	December 26 1965	December 27 1965	December 28 1965	December 29 1965	December 30 1965	December 31 1965	January 3 1966
Urine Albumin	2+	4+		1+	Negative		Negative	Negative
Urine Microscopic Per H P F	Hemastix 4+ No Cells	15-20 R B C 10-15 W B C 8-10 Gran. Casts		0-1 R B C 0-2 W B C	2-3 R B C 6-8Clumps Rare Gran. Casts		3-4 R B C 3-4 W B C	0-1 R B C 0-1 W B C
BUN—Mg %			20	24		20		13
Bilirubin			0-6 Total					
H B	13 6		13.5			11.7		12.3
H M T	43		41			36		37
W B T	28,000		33,500			20,000		10,350
Platelets			257,000					
Sodium			136					
Potassium			4 5					
Carbon Dioxide			23					
Chlorides			96					
S G O T			24,000	13,000		260		40
L D H			6,000	6,400				1,700
Aldolase					275 S L U			
CREATINE Phosphokinase					25,800 Sigma Units			
Addis Count		450 ML 2 Mil. W B C 60 Mil. R B C 2 Mil. CASTS						
Quantitative Urine Albumin					0.2 Grams /Liter (625 ML)			
Serum Albumin			5.5					
Serum Globulin			2.0					
Cholesterol			220 MG %					

Case Report

This 11 year old white male was generally well prior to onset of his present illness on December 25, 1965. He had mumps, chicken pox, and measles without complications. He exhibited local urticaria at sites of insect bites. On December 25, 1965, he awakened early, felt well, played all day, and then took a nap at 4 P.M. At 6 P.M. he awakened with an oral temperature of 101°, aching in his muscles, soreness in his joints, facial swelling, inability to walk. When examined by his family physician, a urine specimen was obtained. This was red, was four plus positive on hemastix; microscopic examination was unremarkable.

Admission physical examination revealed a rectal temperature of 102°, blood pressure 120/70; weight 102 pounds. He appeared acutely ill. There was facial puffiness. The arm, forearm, thigh, calf musculature were tender to palpation. There was some pharyngeal redness; the jaw muscles were so sore that he opened the mouth for examination with great difficulty. Nodes, neck, heart, lungs, abdomen, neurological examination were unremarkable.

See accompanying chart for laboratory data.

EKG and chest x-ray were normal.

He was placed on Prednisone 80 mg/day since diagnosis was not made on admission. A urinalysis on December 28, 1965, was positive on spectrophotometric examination for myoglobin. He became afebrile immediately. He also received bicillin 1.2 million units on admission. Steroids were tapered December 29, 1965, and discontinued on December 31, 1965. Muscle soreness subsided slowly. He became able to walk on December 31, 1965. On discharge on January 3, 1966, he exhibited muscle weakness in the involved muscles, but was fully ambulatory and felt well otherwise.

He was studied at the clinical center of the National Institutes of Health from February 9, 1966, to March 3, 1966. Electromyography, muscle biopsy, and ischemic exercise tests were all normal.

His nine year old brother was also studied at the Clinical Center. He had a past history of fever with myalgia. The noteworthy finding in this brother was elevated levels of LDH (700-1000 units), aldolose (6-20 units), and creatine phosphokinase (3.5-16 units). (Normal LDH 200-600; Aldolose 1.0; CPK 0-1.5 units). Family history revealed no other affected members.

Summary

A case of acute, apparently familial, idiopathic rhabdomyolysis with paroxysmal myoglobinuria in a twelve year old white male is described. The pertinent literature is reviewed. Etiology, pathology, clinical course, treatment, and areas of controversy are reviewed.

Bibliography

1. Bowden, D. H., Fraser, D., Jackson, S. H., and Walker, N. F.: Acute Recurrent Rhabdomyolysis (Paroxysmal Myohaemoglobinuria). Medicine XXXV: 335, 1956.
2. Bywaters, E. G. L., DeLony, G. E., Rimington, C., and Smiles, J.: Myohaemoglobin in the Urine of Air Raid Casualties with Crushing Injury. Biochen. J. 35:1164, 1941.
3. Bywaters, E. G. L. and Stead, J. K.: Thrombosis of Femoral Artery with Myohaemoglobinuria and Low Serum Potassium Concentration. Clin. Sc. 5:195, 1945.
4. Fischer, H. and Rossier, P. H.: Starkstromufalle met Schweren Muskelschadigurgen und Myoglobinurine. Helvet Med. Acta. 14:212, 1947.
5. Hampers, C. L. and Prager, D.: Myoglobinuric Myopathy. Ann. Int. Med. 60:476, 1964.
6. Fahlgren, H., Hed, R., and Lundmark, C.: Myonecrosis and Myoglobinuria in Alcohol and Barbiturate Intoxication. Aetna Med. Scan. 158:405, 1957.
7. Hed, R., Lundmark, C., Fahlgren, H., and Orell, S.: Acute Muscular Syndrome in Chronic Alcoholism. Acta Med. Scan. 171:585, 1962.
8. Rainey, R. L., Estes, P. W., Neely, C. L., and Anick, L. D.: Myoglobinuria Following Diabetic Acidosis. Arch. Int. Med. III:564, 1963.
9. Bachanan, D. and Steiner, P. C.: Myoglobinuria and Paralysis. Arch. Neurol. Psychiat. 66: 107, 1951.
10. Reid, H. A.: Myoglobinuria and Sea Snake Bite Poisoning. Brit. M. J. 1:1284, 1961.

11. Berlin, R.: Haff Disease in Sweden. Acta Med. Scan. 129:560, 1948.
12. Field, R. A.: Glycogen Deposition Diseases. In the Metabolic Basis of Inherited Disease. Ed. by Stanbury, J. F., Wyngaarden, J. B., and Friedrickson, D. S. The Blakiston Division, McGraw Hill Book Co., Inc., New York, 1960, p. 156.
13. McArdle, B.: Myopathy Due to a Defect in Muscle Glycogen Breakdown. Clin. Sci. 10, 13, 1951.
14. Schmid, R. and Hammaker, L. Hereditary Absence of Muscle Phosphorylase (McArdle's Syndrome). New Eng. J. Med. 264:223, 1961.
15. Mommaerts, W. F. H. M., Illingworth, R., Pearson, C. M., Guillarry, R. J., and Serray-Darvin, K.: A Functional Disorder of Muscle Associated with Absence of Phosphorylase. Proc. Nat. Acad. Sc. 45:791, 1959.
16. Hinz, C. F., Jr., Drucker, W. R., and Larner, J.: Idiopathic Myoglobinuria. Metabolism and Enzymatic Studies in Three Patients. Am. J. Med. 39:49, 1965.
17. Tobin, R. B. and Coleman, W. A.: A Family Study of Phosphorylose Deficiency in Muscle. Ann. Int. Med. 62:313, 1965.
18. McArdle, B.: Metabolic Myopathies: the Glycogenoses Affecting Muscle and Hypo- and Hyperkaliemic Periodic Paralysis. Am. J. Med. 35:661, 1963.
19. Ratino, V. G., Baker, G. P., and Swaiman, K. F.: McArdle's Syndrome with Previously Unreported Electrocardiographic and Serum Enzyme Abnormalities. Ann. Int. Med. 62:328, 1965.
20. Favara, B. E., Vawter, G. F., Wagner, R., Kevy, S., and Porter, E. G.: Familial, Paroxysmal Rhabdomyolysis in Children: A Myoglobinuric Syndrome. South. M. J. 58:1589, 1965.
21. Kontos, H. A., Harley, E. L., Wasserman, A. J., Kelly, J. J. III, and Magee, J. H.: Exertional Idiopathic Paroxysmal Myoglobinuria. Am. J. Med. 35, 283, 1963.
22. Scarpelli, D. G., Gruder, M. H., and Frajola, W. J.: Idiopathic Recurrent Rhabdomyolysis: A Clinical, Chemical, and Morphological Study. Am. J. Med. 34:426, 1963.
23. McArdle, B.: Metabolic and Endocrine Myopathies. In Disorders of Voluntary Muscle. Ed. by Walton, J. N., Little Brown & Co., Boston, 1964, p. 389.
24. Meyer-Betz, F.: Beobackturger an Einem Eigenartigen mit Muskellahmurgen Verbundeur Fall von Hamoglobinuric. Deutches Arch F. Klin Med. 101:85, 1910.
25. Pearson, C. M.: Muscular Dystrophy. Am. J. Med. 35, 632, 1963.
26. Prankerd, T. A. J.: Electrophoretic Properties of Myoglobin and Its Character in Sickle Cell Diseases and Paroxysmal Myoglobinuria. Brit. J. Haemet. 2:80, 1956.
27. Schneiderman, L. J.: Myoglobin in the Human Foetus. Nature, London, 194:191, 1962.
28. Kossman, R. J., Camp, W. A., and Engle, R. L. Idiopathic Recurrent Rhabdomyolysis with Myoglobinuria. Am. J. Med. 34:554, 1963.

---

608 Medical Tower
Norfolk, Virginia

ANNUAL MEETING

THE MEDICAL SOCIETY OF VIRGINIA

MARRIOTT TWIN BRIDGES MOTOR HOTEL

ARLINGTON, VIRGINIA

OCTOBER 19-21, 1967

Carotid—Cavernous Fistula

Case with Contralateral Eye Signs Only

KENNETH D. TUCK, M.D.
WILLIAM TICE, M.D.
Roanoke, Virginia

Carotid cavernous fistula may be spontaneous or traumatic. Although a few cases will heal without treatment, most require surgery for symptomatic relief.

THE PURPOSE OF THIS PAPER is twofold: first, to review the carotid-cavernous fistula syndrome and second, to present an unusual case manifesting contralateral eye signs with absence of homolateral findings.

Anatomical Considerations

Carotid-cavernous fistula is a communication or shunt between the intracranial internal carotid artery and the cavernous sinus. There is a reversal of the usual blood flow with arterial blood being shunted from the carotid into the cavernous sinus and then draining into a number of venous pathways (Fig. 1). Only two of these venous pathways affect the orbital contents.[1] The first and most important venous outlet drains the cavernous sinus by way of the superior ophthalmic vein to the facial veins to reach the internal jugular. The second outlet drains the cavernous sinus by way of the inferior ophthalmic vein into the pterygoid plexus where it enters the facial veins to reach the internal jugular vein.

Presented at the Annual Meeting of the Virginia Society of Ophthalmology and Otolaryngology, Charlottesville, April 28-30, 1966.

Etiology

Trauma is the etiologic basis for 75% of carotid-cavernous fistulae. They may arise

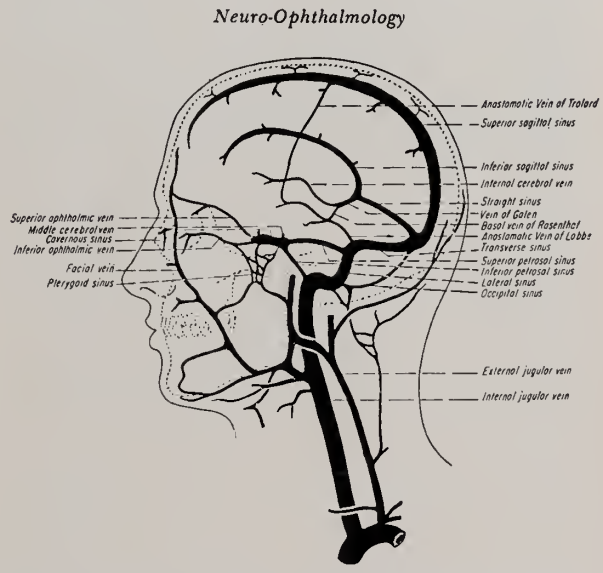


Fig. 1. Diagram showing tributaries of cavernous sinus. From: J. L. Smith: Neuro-Ophthalmology Symposium. Charles C. Thomas, 1964.

as a result of trauma to a normal internal carotid or injury to an arteriosclerotic or aneurysmal carotid within the cavernous sinus. Walsh[2] states that in basilar skull fractures the sphenoid bone is fractured in a high percentage of cases; since the sphenoid bone lies beneath the relatively fixed carotid artery and cavernous sinus, tears in the carotid or the sinus are likely to occur.

The remaining 25% occur spontaneously. The underlying mechanism of spontaneous occurrence remains obscure.

Occurrence

Traumatic cases usually occur in men

between the third and fifth decades with the right side usually involved. Spontaneous cases occur more often in women and involve the left side more frequently.

Symptoms and Signs

Proptosis usually develops rapidly and is rarely more than a month in making its appearance. The degree of proptosis may be influenced by the size of the arteriovenous communication, available pathways of venous collateral circulation, and relative dilatation of orbital veins.[2]

Stasis and engorgement of orbital veins also cause conjunctival injection associated with chemosis, edema of the lids, visible venous dilatation in the skin over the orbital region, dilated retinal veins and papilledema.

Ocular pulsation is frequently seen due to transmission of the heart beat from the carotid artery to the greatly distended ophthalmic vein where it is conveyed to the globe. The presence of a bruit is dependent upon direct communication between an artery and vein and can be detected by auscultation or may be heard by the patient as a swishing or roaring sound.

Visual failure on the involved side is a frequent finding. This is the result of anoxia due to embarrassment of retinal circulation. The disturbance in retinal circulation results from the internal carotid arterial shunt into the cavernous sinus which reduces the effective ophthalmic artery pressure and causes venous stasis. Visual impairment may also result from kinking of the optic nerve from displacement by the carotid artery and bulging cavernous sinus.

The third, fourth, and sixth cranial nerves are involved in sixty per cent of cases.[2] The sixth nerve which passes through the sinus itself is involved in about 60% of these cases. The third and fourth nerves which pass through the sinus wall are involved in 28% and 10% of cases, respectively. The trigeminal nerve may be involved directly either by the fistula or by pressure of the dilated ophthalmic vein on the first division as it crosses the superior sphenoidal fissure.

Henderson and Schneider[3] reported glaucoma in 41% of their cases. This form of secondary glaucoma appears to result from the venous back pressure which develops as a result of the arteriovenous shunt.

Treatment

If partial regression of exophthalmos and symptomatic relief of the bruit are the only objectives, simple ligation of the cervical internal carotid artery may be adequate. Adson[4] introduced a method of cervical ligation of the internal carotid artery with simultaneous intracranial clipping of the internal carotid and ophthalmic arteries (Fig. 2). Henderson and Schneider[3] report

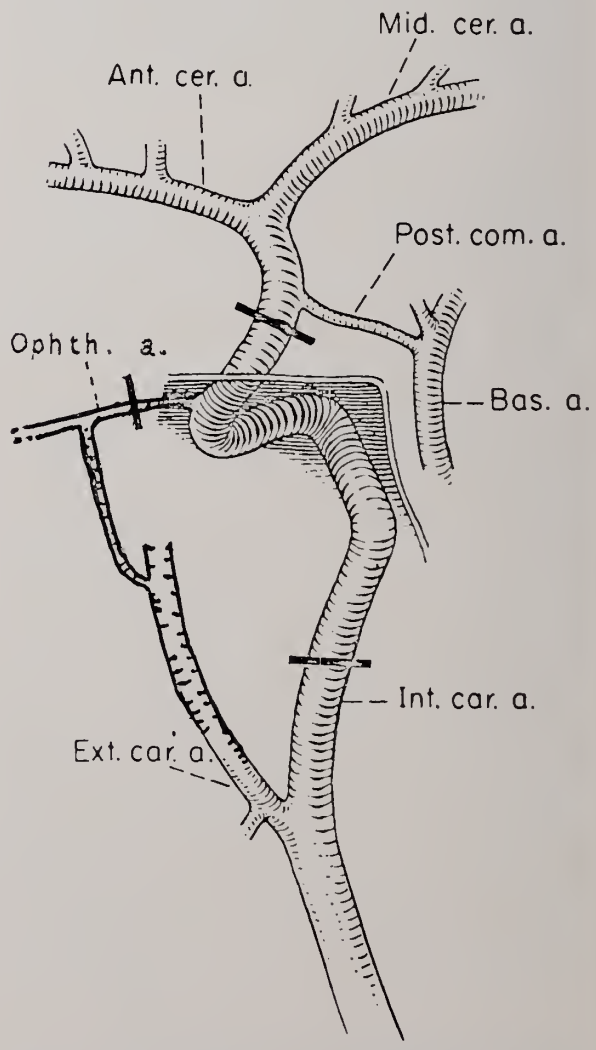


Fig. 2. Anatomical sketch of a trap ligation. Modified from: J. L. Smith: Neuro-Ophthalmology Symposium. Charles C. Thomas, 1964.

their best results in patients who had this "trapping" procedure performed early. They felt that the tendency to proceed cautiously awaiting the result of one procedure before going to another was a pitfall in that it permitted irreversible changes to occur in orbital tissues. Furthermore, the the longer the carotid-cavernous fistula remains patent the more opportunity it has to increase in size.

Often there is adequate collateral circulation between the external carotid and ophthalmic artery; however, reversal of flow occurs so that blood reaching the ophthalmic artery by this route feeds the cavernous sinus. Adson[4] actually saw pumping of arterial blood from the ophthalmic artery into the trapped segment of the internal carotid artery after ligating both in the neck and above the fistula. The need for clipping of the ophthalmic artery was recognized in order that the external carotid collateral flow might be diverted toward the central retinal artery.

When the "trapping" technique fails, muscle embolization may be considered; muscle is introduced into the lumen of the internal carotid to occlude the opening between the internal carotid and cavernous sinus.[5] Parkinson[6] recently described a method of clipping the cavernous portion of the internal carotid artery.

Prognosis

It is known that approximately 5-10% of patients with carotid-cavernous fistula will heal spontaneously, probably by thrombosis.

In traumatic cases a carotid-cavernous fistula may exist many years without any appreciable harmful results with the exception of visual acuity which is reduced in 90% of the cases. A majority of cases will require surgery because of the noise created by the fistula.

The prognosis of the spontaneous cases is not so favorable because at least half of these end in death.[7] Such cases usually have advanced arteriosclerosis so that multiple lesions frequently develop.

Case Report

Mrs. R. P., aged 70, was referred by Dr. Donald Richman with the diagnosis of carotid-cavernous fistula (Fig. 3). She was

Fig. 3. The paretic right eye was preferred for fixation. Note proptosis and dilatation of conjunctival veins of this eye.

seen in consultation for the neurosurgeon, Dr. William Tice, on May 21, 1965. The patient was complaining of pain involving her right eye and the right side of her face of two years duration which recently had become worse. She noted onset of slight proptosis of the right eye approximately five months previously. During the previous month she had felt a pulsating mass above the inner canthus of her right eye and a pounding noise in her right ear. The involved eye had become noticeably red and double vision developed during the previous week.

No definite history of trauma was elicited.

The ophthalmic examination revealed the corrected visual acuity of the right eye to be 20/50; with aphakic correction, the vision of the left eye was 20/40 but aphakic correction was not worn. Proptosis of the right eye was noted; the exophthalmometer readings were: R. E., 15; L. E., 10. Mild conjunctival injection was present. Dilated vessels were visible in the inner aspects of the right orbit and over the forehead; palpation of these vessels revealed a thrill. A bruit was heard by auscultation over this

area and over the eye. The right eye could not be abducted past the midline due to paralysis of the right sixth nerve. A convergent squint of fifteen degrees of the left eye was measured. The pupils were essentially equal and reacted promptly to light. The gross visual fields were normal.

The ophthalmoscopic examination revealed the presence of an immature cataract formation of the right eye and aphakia of the left. There was minimal venous engorgement of the right fundus but there was no papilledema.

The intraocular tensions using the Schiotz tonometer were: R. E., 22 mm. Hg.; L. E., 11 mm. Hg. Retinal artery pressures were not measured nor was corneal sensation evaluated.

On May 21, 1965, a right carotid angiogram was performed which was normal. On May 27, a left carotid angiogram (Fig. 4)

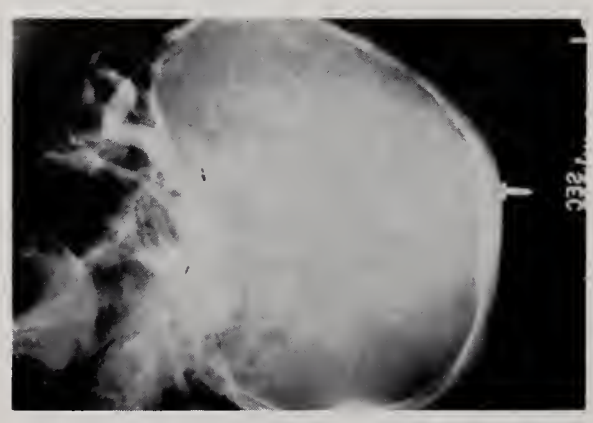


Fig. 4. Carotid angiogram showing carotid-cavernous fistula of left side with marked distention of superior ophthalmic and facial veins.

demonstrated the presence of a carotid-cavernous fistula on the left side draining to the opposite side into the right cavernous sinus. The right superior ophthalmic vein and facial vein were greatly enlarged.

The general physical examination was unremarkable. Her blood pressure was 140/90. Routine laboratory studies were negative. Skull x-rays were normal.

A Selverstone clamp was applied to the left common carotid on June 3, 1965, by Dr. William Tice. Gradual occlusion of the clamp was started but on June fifth the patient developed aphasia and right hemiparesis. This complication necessitated immediate release and subsequent removal of the clamp. There was prompt improvement in speech and movement of extremities.

The patient was discharged from the hospital on June 18 and was last seen by Dr. Tice on September 13, 1965. Pain and swelling in the region of the right eye had subsided and proptosis had diminished. There was no persistent bruit over the right eye and orbit. There was persistence of the redness of the eye as well as the sixth nerve paralysis.

It was the neurosurgeon's impression that a thrombosis of the internal carotid artery had occurred following the application of the clamp which in effect had accomplished the same thing that ligation of the internal carotid would have done.

Comment

Contralateral eye findings have been reported by Walsh,[2] Poppen,[8] Tamler,[9] Ramos and Mount,[10] Pincus,[11] and Dandy and Follis.[12] The basis for contralateral eye signs from a unilateral fistula is that the intercavernous sinuses become dilated and engorged with dilatation of the contralateral sinus and its tributaries (Fig. 5). Inter-

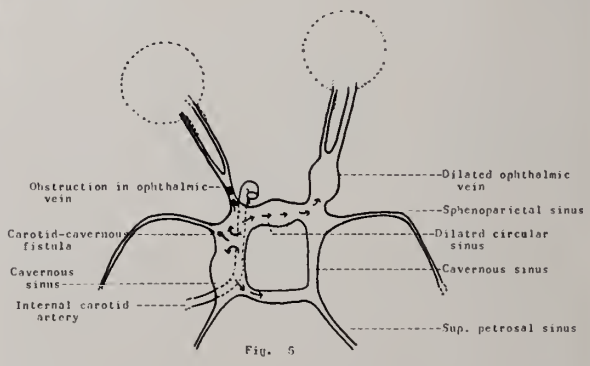


Fig. 5

Sketch showing mechanism of carotid-cavernous fistula manifesting contralateral eye signs only.

Fig. 5

cavernous sinuses are always present but not invariably patent, otherwise bilateral signs

would constantly develop. When only contralateral signs develop, some mechanism interferes with development of homolateral signs while intercavernous sinuses open to allow contralateral signs to appear.

From the few reported cases of carotid-cavernous fistula with only contralateral eye signs, only two autopsies have been reported. On the basis of these reports, Tamler[9] suggests two mechanisms as tenable explanations for the absence of eye signs on the homolateral side: 1. The wall of the internal carotid artery, or a dilated intracavernous portion of it, causes complete obstruction of venous flow between the cavernous sinus and ophthalmic veins. In Tamler's case,[9] the wall of the dilated artery was actually fused with the anterior wall of the sinus. Venous return from the eye would have to leave the orbit through another route, most likely through an anastomosis with the pterygoid sinus. 2. A second explanation is the development of a thrombus in the ophthalmic vein entering the cavernous sinus and/or in the sinus itself.

Summary

1. A short resume of the clinical aspects of carotid-cavernous fistula has been presented.

2. A case of carotid-cavernous fistula with contralateral eye findings only has been presented.

Bibliography

1. Smith, J. L.: Neuro-ophthalmology Symposium. Charles C. Thomas, 1964.
2. Walsh, F. B.: Clinical Neuro-ophthalmology. Second edition, Baltimore, Williams & Wilkins, 1957.
3. Henderson, J., and Schneider, R.: The Ocular Findings in Carotid-Cavernous Fistula in a Series of 17 Cases. Am. J. Ophthal. 43:585-597, 1959.
4. Adson, A.: Surgical Treatment of Vascular Diseases Altering the Function of the Eyes. Tr. Am. Acad. Ophth. 1941, pp. 95-111.
5. Hamby, W. B.: Intracranial Aneurysms. Springfield, Ill. Charles C. Thomas, 1952.
6. Parkinson, D.: A Surgical Approach to the Cavernous Portion of the Carotid Artery. Anatomical Studies and Case Report. P. 474-483. J. Neurosurg. Nov. 23:474-483, 1965.
7. Boyes, T., and Ralph, F.: Carotid-Cavernous Fistula. Am. J. Ophth. 37:262-266, 1954.
8. Poppen, J.: Specific Treatment of Intracranial Aneurysms. J. Neurosurg. 8:75-102, 1951.
9. Tamler, E.: Carotid-Cavernous Fistula with Typical Signs on Contralateral Side Only. Arch. Ophth. 52:433-441, 1954.
10. Ramos, M., and Mount, L.: Carotid-Cavernous Fistula with Signs on Contralateral side. J. Neurosurg. 10:178-182, 1953.
11. Pincus, F.: Spontanheilung Eines Traumatishen Pulsierenden Exophthalmus. Ztschr. Augcnh. 18:33-41, 1907.
12. Dandy, W., and Follis, R., Jr.: On the Pathology of Carotid-Cavernous Aneurysms (Pulsating Exophthalmos). Am. J. Ophth. 24:365-385, 1941.

1138 Second Street, Southwest
Roanoke, Virginia

Birth Rate

The daily birth rate this year in the nation's community hospitals reached a peak of 9,389 in September, a decline of nearly 5 per cent over the peak month in 1965, according to a survey by the American Hospital Association.

Since 1961 the birth rate in the nation's hospitals has been decreasing. In the past five years hospitals registered by the AHA have reported a decline of 337,000 in annual births—from a high of 3,750,494 in 1961 to a low of 3,413,370 in 1965. The trend is toward an even more pronounced drop in total births for 1966.

Coronary Embolism with Myocardial Infarction and Septic Meningitis in a Young Female with Subacute Bacterial Endocarditis

DOUGLAS L. RITCH, M.D.
DONALD W. DREW, M.D.
Norfolk, Virginia

Subacute bacterial endocarditis, a serious disease even with antibiotics available, becomes a greater threat when complicated by such grave developments as myocardial infarction and septic meningitis.

A 26 year old female was admitted to the hospital with subacute bacterial endocarditis which was complicated by myocardial infarction and septic meningitis. Since these complications are uncommon, this case was thought worthy of reporting.

Case Report

M.B., a 26 year old colored female had been well all of her life except for a vague history of rheumatic fever at age 12 years. Approximately one month prior to admission, she began to lose her appetite, felt generally fatigued, ran a low grade fever and suffered a 25 pound weight loss. One week prior to admission, she had pain in the left calf on walking. Three days prior to admission, she had similar symptoms in the right calf. There was no recent history of sore throat, skin rash, chorea or subcutaneous nodules.

When she was seen in the Emergency Room, there was a one day history of right anterior chest pain greatest on motion, deep breathing and coughing. The pain had migrated predominantly to the left anterior chest region and the cough produced only minimal amounts of white sputum. Her past medical history and review of systems were, otherwise, non-contributory.

On physical examination, she was a well developed, thin, cooperative colored female complaining of left anterior chest pain. Her blood pressure was 100/55 mm Hg; respirations 40/min; pulse 140/min; temperature 101°F. Examination of the heart revealed a regular sinus tachycardia of 140/min. The heart was not enlarged. There was a grade 2/6 holosystolic murmur heard at the apex and faintly in the axilla. There were no thrills or friction rub. The chest was clear to percussion and auscultation. Abdominal examination was negative except for slight tenderness in the left upper quadrant, but the spleen could not be definitely palpated. There was marked tenderness of both calves with palpable venous cords. Peripheral pulses and joints were normal. There was no swelling, rubor or edema. The remainder of the physical examination was normal.

The Hbg. was 8.8 grams; WBC: 14,700 with 87% neutrophils and 12% lymphocytes. Urinalysis revealed a specific gravity of 1.024, 2+ Protein, 8-15 RBC's and 2-4 WBC's. An electrocardiogram (Figure 1A) had ST-T wave changes of pericarditis. Chest film was negative and a phonocardiogram, (Figure 2) was consistent with mitral insufficiency.

The patient was admitted to the hospital. Serial blood cultures were drawn and large

doses of intravenous penicillin were started. The initial blood cultures grew an enterococcus resistant to penicillin but sensitive to Cephalothin. A subsequent electrocardiogram was suggestive on an apical infarction and a following EKG (Figure 1B) was indicative of an apical infarction. Lactic dehydrogenase was 1100 units and SGOT was 58 units.

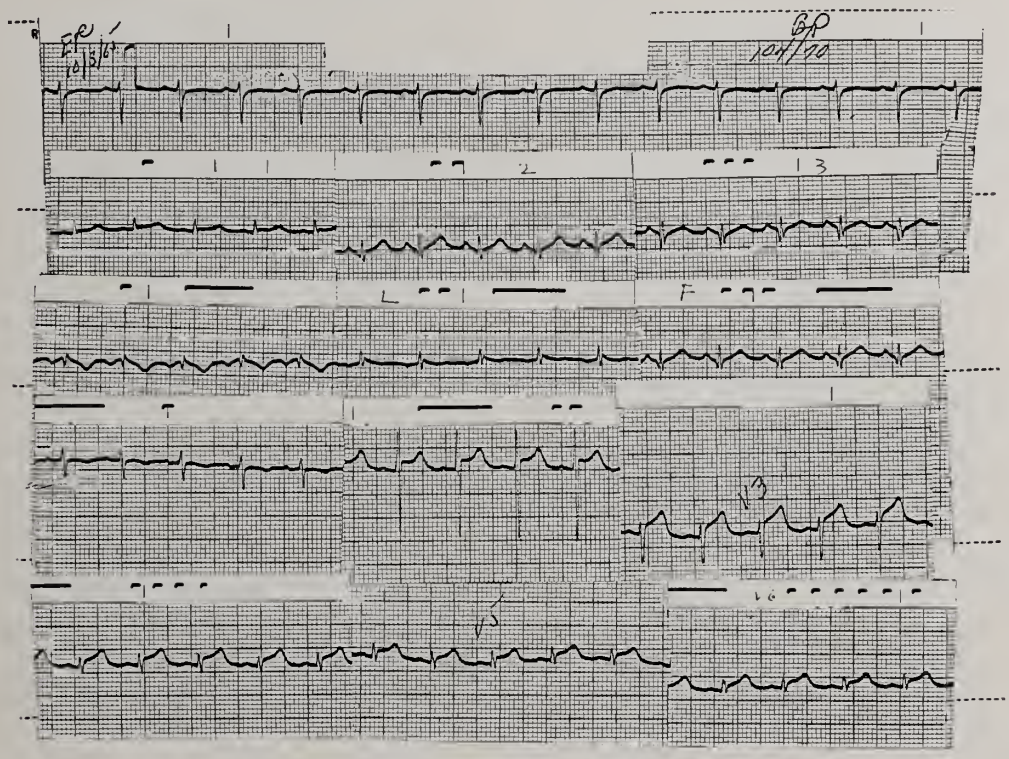


Fig. 1A. EKG shows ST elevations in 1, 2, AVL, AVF and V2-V6 and is consistent with acute pericarditis.

Cephalothin therapy was started and continued for four weeks when sensitivity studies showed the enterococcus to be sensitive to Cephalothin, erythromycin and chloramphenicol and resistant to pencillin, ampicillin, lincomycin and streptomycin. Three days after discontinuing cephalothin, she began to spike a fever, complain of headache, photophobia, blurred vision and developed signs of meningeal irritation. On lumbar puncture, cloudy spinal fluid which had 2700 WBC's with 97% neutrophils was obtained. An enterococcus was isolated on culture. Intravenous ristocetin 1 gram q 12h was instituted and continued until the supply was exhausted one week later. At this time, intravenous ampicillin, 2.0 grams q 4th was started. A brain scan revealed an area of increased uptake in the right occipital region but a pneumoencephalogram revealed no abnormalities.

During the ensuing four weeks of ampicillin therapy, the patient remained afebrile and continued to improve. Serial blood cultures during this time were negative. She was observed for one week after discontinuing therapy and remained afebrile. Blood cultures remained negative and she was discharged to be followed in the outpatient department.

Comment

Coronary embolism is an infrequent cause of myocardial infarction.[1] Although the actual incidence of coronary occlusion due to embolism is unknown, certain authors attribute 50% of coronary emboli to S.B.E.[2,3] Much of the literature deals with the diagnosis of coronary embolism made by postmortem studies.[4] Saphir reported only a small incidence of electrocardiographic ab-

normalities that could be related to S.B.E. although myocardial infarcts were demonstrated in almost half the autopsied cases he reviewed. He thought this occurred be-

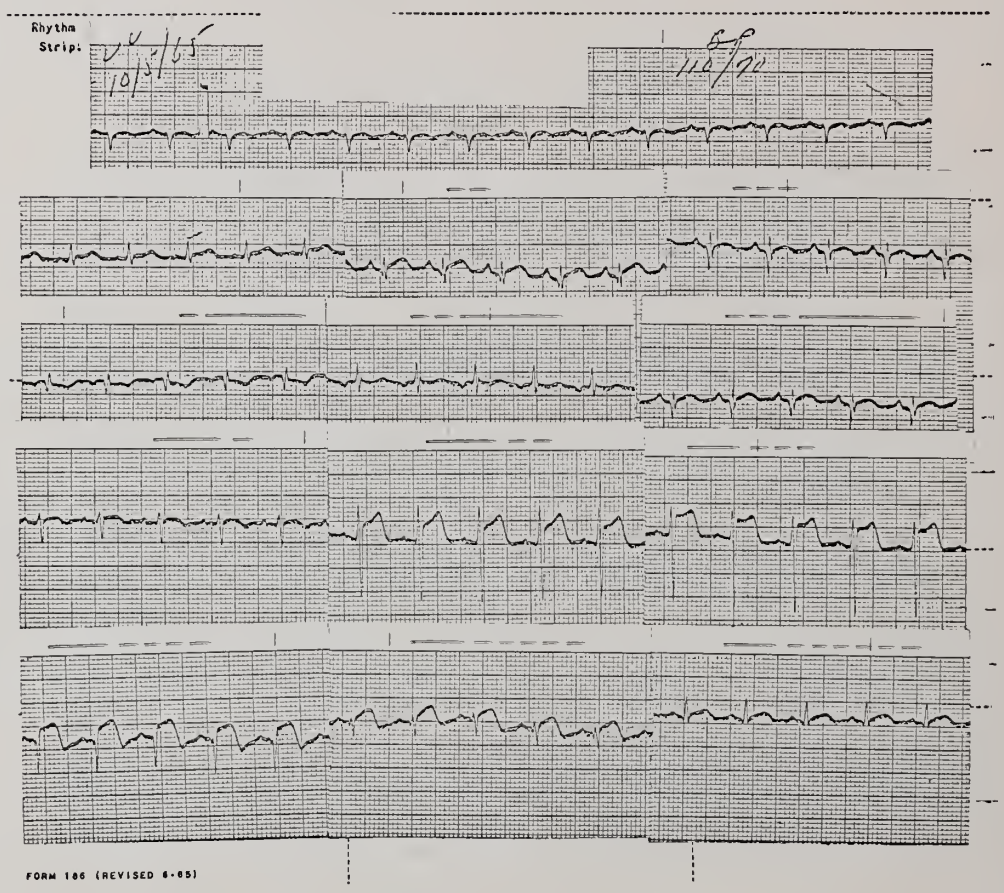


Fig. 1B. (two days later) EKG shows marked ST elevations in 1, 2, AVF and V2-V6 with Absent R wave in V4 and Qr V5. The Q has deepened in 2, 3, and AVF. The T's show early terminal inversion V4-V5. These changes are consistent with the evolution of a small apical myocardial infarction.

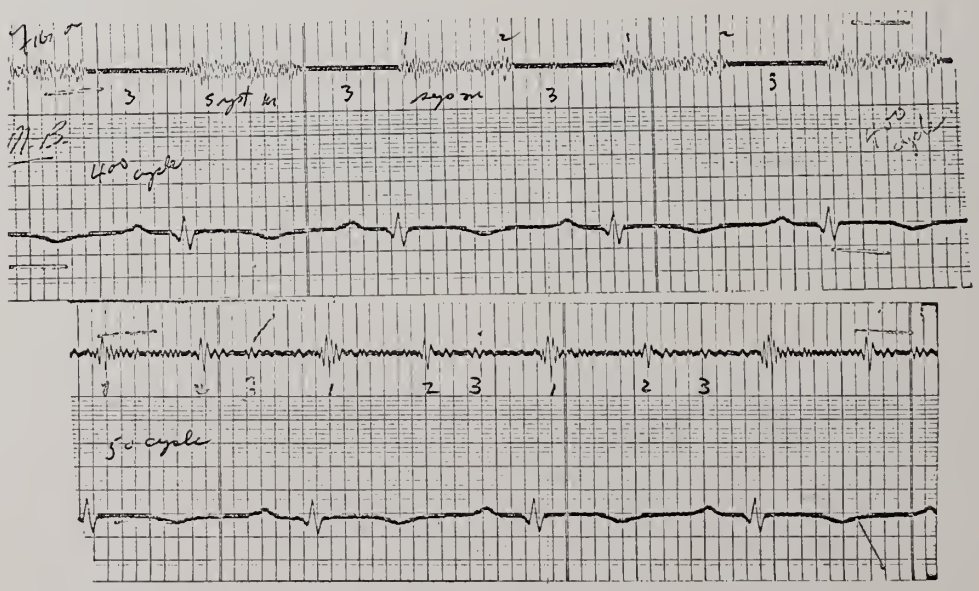


Fig. 2. Apical phonocardiogram (400 cycles) shows a high frequency holosystolic murmur consistent with mitral insufficiency. At 50 cycles, a third heart sound is noted.

cause these infarcts were microscopic in size and diffuse in location.[5] Reports in which the diagnosis was made clinically have been infrequent prior to recent reports in association with mitral valve disease.[6]

While pericarditis itself is not a rare entity, it is considered by some as an unusual occurrence with subacute bacterial endocarditis.[7,8,9] The initial EKG changes of pericarditis (Figure 1A) were most likely the initial manifestation of a coronary embolism. The ensuing development of an infarction pattern suggest this (Figure 1B). EKG evidence of pericarditis, fever and a mitral murmur would suggest the possibility of rheumatic fever; however, the subsequent positive blood cultures and apical infarction pattern established the correct diagnosis of coronary embolism.

Enterococci are not generally highly sensitive to penicillin and are generally resistant to streptomycin in vitro; however, the combination of penicillin and streptomycin has been found useful in many cases of enterococcal endocarditis. Treatment with this combination has been reported to produce cure rates of 70 to 80%.[10,11,12,13] Other drugs have been used when hypersensitivity has been a problem. The semisynthetic penicillins, cephalothin, and lincomycin are of little value since enterococci are resistant or not very sensitive to them.[14,15]

Earlier, ristocetin[16,17] proved to be effective for short term therapy and appeared more effective than penicillin and streptomycin used in combination for six or more weeks. However, since severe hematological abnormalities have been reported in association with the use of ristocetin, it has been withdrawn from the market and is no longer available for clinical use. Regardless of the drug or drug combination chosen, intermittent parenteral administration is currently preferred over continuous administration since it is felt that the peak concentration is the primary determinant of the degree of penetration and duration of sustained anti-microbial activity in fibrin.

Acute purulent and septic meningitis as seen in this case is uncommon[18] although emboli deposited in the meninges often contain organisms.[19] These infected emboli very seldom create metastatic abscesses since the organisms are usually of low pathogenicity and are readily destroyed when separated from the protection of the vegetation. However, an exception should be made when the infectious organism in endocarditis is the enterococcus since it is not as responsive to antibotics as the more common organisms.

Summary

A case of subacute bacterial endocarditis due to enterococcus in which coronary embolism with myocardial infarction and septic meningitis occurred is reported. These are considered to be unusual complications of S.B.E., and, at this time, the patient appears to have been cured with antibiotic therapy.

Bibliography

1. Walker, B.: Coronary Embolism and Coronary Occlusion in Bacterial Endocarditis. British Heart J. 14:144-146, Jan. 1952.
2. Moragues, V., M. B. Bawell, E. L. Shrader: Coronary Embolism: Review of the Literature and Report of a Unique Case. Circulation 2:434-437, Sept. 1950.
3. Lamkin, E. H., C. Oehler, M. D. Balsley: Coronary Embolism with Myocardial Infarction. J.A.M.A. 194:1019-1020. Nov. 29, 1965.
4. Wenger, N. K. and S. Bauer: Coronary Embolism. Am. J. Med. 25:549-557, Oct. 1958.
5. Saphir, O. Kate, L. N., & Gore, I.: The Myocardium in Subacute Bacterial Endocarditis. Circulation 1:1155, May 1950.
6. Oakley, C. R., Yusuf, and A. Hollman: Coronary Embolism and Angina in Mitral Stenosis. British Heart J. 23:357-369, July 1961.
7. Carter, J. E. and R. V. Christie: Subacute Bacterial Endocarditis: A Review of 442 Patients Treated in 14 Centers Appointed by the Penicillin Trials Committee of the Medical Research Council. Quarterly J. Med. 20:93-130, April 1951.
8. Pankey, G. A.: Subacute Bacterial Endocarditis at University of Minnesota Hospitals. Ann. Int. Med. 55: 550-561, Oct. 1961.
9. Robinson, M. J. and J. Ruedy: Sequelae of Bacterial Endocarditis. Am. J. Med. 32:922-928; June 1962.

10. Robbins, W. C. and R. Tompsett: Treatment of Enterococcal Endocarditis and Bacteremia: Results of Combined Therapy with Penicillin and Streptomycin. Am. J. Med. 10:278, 1951.
11. Tumulty, P. A.: Antibiotic Therapy of Bacterial Endocarditis. Am. Heart J. 64:117-125, 1962.
12. Vogler, W. R., E. R. Dorney and H. A. Bridges: Bacterial Endocarditis: Review of 148 Cases. Am. J. Med. 32:910-932, 1962.
13. Koenig, M. G. and D. Kraye: Enterococcal Endocarditis: Report of 19 Cases with Long-Term Follow-Up Data. New England J. Med. 264:257-264, 1961.
14. Klein, J. O. M. Finland: New Penicillins. New England J. Med. 269:1019-1025, 1074-1082 and 1129-1134, 1963.
15. Kaplan, K., W. Chew, and L. Weinstein: Microbiological, Pharmacological and Clinical Studies of Lincomycin. Am. J. Med. Sc. 250:137-146, 1965.
16. Romansky, M. J. and J. R. Holmes: Successful Short-Term Therapy of Enterococcal and Staphylococcal Endocarditis with Ristocetin. Preliminary Report, Antibiotics Ann. pp. 187-198, 1957-1958.
17. Romansky, M. J., C. W. Foulke, R. A. Olsson, J. R. Holmes: Ristocetin in Bacterial Endocarditis. Arch. Int. Med. 107:480-493; 1961.
18. Lerner, P. I. and L. Weinstein: Infective Endocarditis in the Antibiotic Era. New England J. Med. 274:259-266; Feb. 3, 1966.
19. Bergen, S. S., Jr., G. Dermksion: Meningeal Manifestations of Subacute Bacterial Endocarditis. New York State J. Med. 57:3683-3685, 1957.

Norfolk General Hospital
Norfolk, Virginia

Fight Venereal Disease

Two state medical societies are starting statewide educational programs to control venereal disease, The AMA News has reported. In Michigan, the Congress of Parents and Teachers (PTA) and Michigan State Medical Society are cooperating in a program to educate students, teachers and parents about the threat of VD and ways to control it. The project is believed to be the first of its kind in the nation, says the National PTA headquarters in Chicago.

The Texas Medical Association is preparing a similar campaign which may become the most extensive such program in the nation. A Conference on Venereal Disease was sponsored January 28 by the TMA, Texas Department of Health, Texas Junior Chamber of Commerce, and Texas PTA.

Statistics furnished by the City of Houston Health Department indicate the need for the program. The department estimates 140,000 Texans are infected by VD each year; that for the 4-month period July-October 1966, Texas was one of only two states showing a significant increase in reported infectious syphilis and that Texas reported the second highest number of infectious syphilis cases and the largest number of venereally infected teenagers.

During this same 4-month period, Michigan had the second largest increase in reported cases of infectious syphilis.

About 1,000 Michigan PTA groups have been contacted by the Michigan State Medical Society, and urged to contact local medical societies for assistance in presenting VD programs at their meetings and to help conduct VD assembly meetings in schools.

The state's 55 local medical societies have been urged by the MSMS to cooperate in the programs. Physician-speakers have been provided for youth groups, and a seminar on VD was held at the state society's annual meeting.

The National Congress of Parents and Teachers, at its national meeting in May, approved a resolution calling for a "sound and adequate program of venereal disease education in every school system in the United States, beginning at least by the eighth grade. . ."

The American Medical Association, at its annual meeting in June, gave renewed emphasis to its nationwide VD control program.

Secondary Oral and Laryngeal Syphilis

RICHARD W. DODD, M.D.
Richmond, Virginia

Syphilis continues to be a disease of major importance and its manifestations are many and varied.

TODAY syphilis of the pharynx and larynx is considered uncommon. Yet, according to a recent magazine,[1] reports indicate that syphilis is by no means eradicated. There are 120,000 new cases reported each year in the United States and at least 1,000,000 untreated cases in this country alone, according to recent Public Health surveys.[2]

Syphilis is a chronic, systemic infectious disease caused by the Treponema pallidum. It is capable of producing changes in almost any organ of the body and its masquerade allows many varying clinical manifestations.[3] It is believed that extra-genital lesions comprise less than five percent of all cases of primary syphilis, the most common sites being on the lips or tongue. Less common are lesions of the soft palate and tonsils. "No case of primary syphilis of the larynx has been reported since 1907." [3] Case reports of lesions of the ear and of the nose have been made, but these are also rare.

Several weeks after contact the primary lesion, or chancre, appears and there may be regional adenopathy. Usually the chancre heals spontaneously. Some four to eight weeks later a generalized maculopapular eruption may develop with associated malaise, headache and fever. Here also mucous membrane involvement is noted as well as generalized adenopathy. This is the secondary stage and it, too, usually disappears spontaneously. Following this stage is a latent period which may continue for years, depending on host immunity, and during which time changes begin to take place in visceral organs, heart, and central nervous system. The end result is the gumma, or granulomatous lesion of the tertiary stage. Clinical manifestations will now vary greatly and show the true masquerading of this disease.

It is interesting to note that when mucous membrane is involved the lesion is not usually painful in spite of secondary bacterial reaction. Of particular significance is the stomatitis, or so-called mucous patch, characteristic of the secondary stage.[4] These patches, located on mucous membranes, will vary in size from several mms to several cms. Adjacent areas often become confluent. The appearance is that of a raised, greyish-white membrane, with surrounding local inflammatory reaction.

Tertiary lesions of the ear, nose, or throat are not frequently seen. Any local site may be involved, however, with formation of either the gumma, or the noduloulcerative lesion, as some call it.[4]

Eighth nerve involvement[5] is thought to be associated with neurosyphilis and is much more common. Tertiary lesions of the skin of the face are identical with those occurring elsewhere. They are destructive and disfiguring. The same is true within the nose and mouth. Usually pain is not present. Laryngeal involvement in tertiary syphilis is rarely seen. Again, destruction and disfigurement allow for extensive change in soft tissues and cartilage. Deformity and stricture may result and, of course, hoarseness will vary with the involvement.

Presented at the Annual Meeting of the Virginia Society of Ophthalmology and Otolaryngology, Charlottesville, April 28-30, 1966.

The histopathology[6] of the primary lesion will be one of dense infiltration of the tissue by lymphocytes and plasma cells. There is vascular involvement leading to endothelial proliferation, and occlusion of the vessel. Usually the organism can be demonstrated during this stage by dark field method.

The secondary lesion shows less dense cell infiltration and an occasional giant cell will be seen along with fibroblastic proliferation. With the mucous patches, superficial ulceration and infection is common. The obliterating vasculitis is also seen. Dark field study again may be positive. The tertiary lesions show focal areas with the same cell pattern as seen in the primary and secondary stages. Central necrosis is common. Essentially, there is less specific interstitial inflammation, especially in vascular and neural tissues, than in the primary lesion. The end result is scarring and deformity.

In the diagnosis of this disease, probably of most importance is the consideration of it as a possibility, especially where infectious disease is concerned. Of course, the STS and dark field examination confirm the suspicion. The most common diseases which must be differentiated are the neoplasm, the chronic granulomas, such as tuberculosis and mycotic diseases, and possibly sarcoidosis.[6]

By choice,[2,7] treatment of the disease is penicillin (two weeks, 600,000 units, b.i.d.). When there is sensitivity to penicillin, erythromycin, or tetracyline, in doses of two or three grams daily, has been successful. Bismuth by injection has been helpful in some cases of persistent laryngeal disease.

The case for presentation is a 51 year old, single, white, male, who was referred to the hospital by his local doctor for evaluation of a suspicious chest lesion on x-ray. Past history revealed a non-productive cough for three months in a heavy smoker, dyspnea upon exertion for two months, hoarseness for one month, and mouth sores for two weeks. There was associated anorexia and weight loss of ten pounds. He had been told by his local physician that he had a "deep cold and laryngitis", and was treated with a variety of pills and liquids, some of which were antibiotics, exact amounts unknown. After a two-weeks period, when no response was made to therapy, a chest x-ray was obtained. The patient was told that this was suspicious and was referred to the hospital. On admission, the patient was found to be a thin, well-developed, alert, white male of stated age, in no acute distress, coughing frequently, smoking continuously, and talking in a high-pitched, raspy voice. Pertinent physical findings included multiple lesions of the buccal folds, soft palate, and oropharynx. These gave the appearance of stomatitis, with grey-white membrane formation in some areas, while other areas were red and showed local inflammatory changes. A small nodule under the lip was painful and tender. A mirror laryngoscopy showed a red, thickened, and granular appearing aryepiglottic fold and right false cord, redness and thickening of both true cords, and a red, granular appearance to the posterior commissure. There was minimal edema in the adjoining area, and cord movement was good. The chest sounds were clear, except for a few central rhonchi. Chest film showed increased hilar markings. Initial laboratory studies showed 8800 WBC, with normal differential, 13.5 gms.% hemoglobin, and negative urinalysis. BUN and total proteins were normal; sputum studies were negative. An STS, and routine agglutination were ordered.

Even though infection was favored it was deemed wise to do a direct laryngoscopy for biopsy material. This was done under local and the sections showed the following: "thickened epithelium with increased polys and plasma cells, micro abscesses, and cell degeneration." This continued into the submucosa. There were changes showing vascular obliteration. By this time, the serology was returned with a reaction of 1:64, and the pathologist now favored infection, with some sort of hypersensitivity reaction, and asked to see the patient. Armed with this information, and being a former army

doctor, he performed a dark field study of the mucous patches and made the diagnosis.

To further compound the misery, a more complete history was obtained from the patient who readily admitted his social contact some three plus months before, his initial genital lesion, and his maculopapular rash, mainly on the extremities.

Under a heavy barrage of penicillin intramuscularly for a two-week period, (1,200,000 daily) the oral and pharyngeal lesions disappeared, hoarseness lessened, and prosperity reappeared. A mirror laryngoscopy, six weeks post therapy, showed a totally normal larynx.

In conclusion, this is not a treatise on syphilis, but merely a short review of the disease and a report of an interesting case, showing secondary oral and pharyngeal disease.

Furthermore, it should be emphasized that this disease is not dead and its consideration in our differential diagnosis is important.

Finally, "what is urgently needed is a vaccine against the disease." [1]

References

1. Time Magazine. January 22, 1965. Vol. 85, No. 4, p. 58.
2. Current Incidence of Venereal Disease in America: Speech of Dr. William J. Brown at the AMA Clinical Convention, Miami Beach, Florida, November 30, 1964.
3. Otolaryngology: Coates, Schenck, Miller. Vol. 5, Ch. 21. W. F. Prior Co., Hagerstown, Md., 1960.
4. Principles of Internal Medicine: Harrison, et al. The Blackston Co., New York, 1950, p. 963.
5. British Journal of Venereal Disease: Aural Syphilis. T. R. Rogers. 21:115, 1945.
6. Atlas of Otolaryngeal Pathology: Ash, Raum. 1949, ch. 2, p. 6.
7. Medical Clinics North America: Vol. 48, No. 3, May, 1964.

Personal Communication with Mr. Harrah, Richmond City Health Department.

1805 Monument Avenue
Richmond, Virginia 23220

Eye Fatigue

Eye fatigue without organic cause is a common complaint after middle age, reports Dr. F. H. Newton of Dallas, Texas. Frequent "eye breaks" can be helpful.

Little has been said about the onset of early tiring of the eyes due to reading or other close work after persons pass 50 years of age. New glasses do not help, he added.

Dr. Newton, a practicing ophthalmologist for 45 years, suggests that such persons take frequent short rest periods or "eye breaks." The frequency and length of these rest periods must be individualized.

Proper diet, usually high in protein and relatively low in carbohydrates and sweets, also is important. He said: "Such early eye fatigue is found in entire families often along with overweight, and other evidences of an improper diet routine."

These older people often read with comfort longer if the reading matter is held 18 to 24 inches away. When eyes begin to tire, the material should not be brought closer—tiring only becomes worse. An "eye break" is in order, rather than bringing the print nearer.

Position and degree of illumination also are important. Reader's eyes are generally more comfortable in a slightly subdued light. Wearing of tinted lenses encourages intolerance to light and generally is not advisable.

In conclusion, Dr. Newton said that the most effective treatment is to help the patient learn to live with his eye fatigue, to recognize that he cannot regain prolonged reading ability with the comfort possible in earlier years.—*Med. Times*, November, pp. 1396-1398. (Schering Science Bulletin)

The "Expanded" Rubella Syndrome

ROBERT S. BROWN, Ph.D.
Charlottesville, Virginia

Rubella is a disease of considerable importance. The magnitude of the problem may be appreciated by consideration of the "expanded" Rubella Syndrome.

RUBELLA OR GERMAN MEASLES is a common communicable disease of children, characterized by lymphadenopathy, pale rose macular eruption which begins on the face and spreads over the body within twenty-four hours, slight fever (if present at all), incubation period of fourteen to twenty-one days, viral etiology, transmission by direct contact, and occasional complications of bronchopneumonia or encephalitis.[1] The disease is usually benign and self-limiting, the rash absent by the third day. No other disorder is thought to produce adenitis in the same manner as rubella, involving the retroauricular, posterior cervical, and postoccipital nodes. The rash itself is not a diagnostic feature; it may be absent altogether and is easily mistaken for exanthem subitum, drug rash or the rash of infectious mononucleosis. Quarantine regulations are usually not imposed, and in most states the disease is not reportable. It is a disease of considerable significance, however, because of risk to the fetus, especially when rubella occurs in the first trimester of pregnancy. The purpose of this paper is to present some aspect of the history and recent development of our knowledge of the rubella virus and its effects on the fetus.

The History of Rubella

German measles was first called "Rötheln," a German word difficult to translate owing to its archaic form but interpreted as "to redden" or "red dog," by Hoffman in 1740, de Bergan, 1752, and Orlow, 1758.[2] It was regarded as a variant form of measles or scarlet fever. Maton, however, in 1815, described it as a separate entity.[2] Wagner described it as different from both rubeola and scarlet fever in 1829.[1] Veale, in 1866, in Edinburgh, first used the name "rubella".[2] For a period of two hundred years from its first description in 1740, German measles enjoyed no notoriety. In 1941, however, Gregg, an Australian ophthalmologist, reported an "epidemic" of seventy-five infants born with cataracts following maternal rubella.[3] The infants were poorly nourished, below normal weight at birth, and more than one-half had congenital heart defects. Subsequent reports verified the relationship between maternal rubella and congenital defects and the "rubella syndrome" was recognized as a clinical entity, the most common congenital findings including cataract, cardiac anomalies (usually patent ductus arteriosus), deafness, microcephaly and mental deficiency.[4-7]

The Rubella Problem

Today, two and one-half decades since its initial description, the rubella syndrome is viewed as a complex medical problem, one which poses a sizeable threat to the fetal population of the world, both in frequency and severity, and, finally, one which has recently been expanded to include a num-

A paper presented to the faculty of the Department of Pediatrics of the School of Medicine, University of Virginia.

Dr. Brown is president of the Class of 1967, School of Medicine, University of Virginia.

ber of congenital defects not previously associated with rubella. Hortsmann has found, for example, an incidence of damage to the fetus when rubella occurs in the first trimester of pregnancy of 15-20 per cent.[5] Fifty per cent or more of the children born to women getting rubella in the first four weeks of pregnancy, however, may have gross congenital anomalies.[6] Maternal rubella within the first fifteen days after the last monthly period, on the other hand, was found by Lundstrom to produce congenital defects in only two per cent of a large group studied in Sweden.[7] Thus a critical period of susceptibility is apparent, one which corresponds to "the embryonic period of intrauterine life, generally considered to be the first eight weeks of growth, during which the fertilized ovum differentiates rapidly into an organism which has most of the gross anatomic features which distinguish the human form." [8] In addition to a period of marked susceptibility, two other findings have been reported which warrant analysis. Rubella virus has been recovered from a 20 mm fetus, ten days after the onset of maternal rubella.[9] At the opposite end of the time span, rubella virus has been recovered from children born with the rubella syndrome as late as ten months after birth.[10] Further, Hardy has recently reported that seven student nurses contracted rubella from newborns with rubella syndrome, in the Johns Hopkins Hospital, who were found to be harboring live rubella virus.[11] The implications for epidemiological consideration are therefore apparent.

Thus it may be necessary to abandon the older concept of the first trimester of pregnancy as the critical interval for maternal rubella, instead to view rubella syndrome in the light of presently accumulating data, which data does not lend itself readily to unequivocal conclusions. The danger of rubella in the period preceding pregnancy, for example, has been suggested by the report of a stillborn with spina bifida delivered of a twenty-four year old female who contracted rubella approximately two weeks prior to her last monthly period.[12] A similar case was reported by Swan in 1949.[4] The threat to intrauterine life from maternal rubella is thus seen to extend throughout the entire gestational period, the virus actually present in some instances before conception and recoverable from the child many months after birth.

The problem of rubella syndrome is further complicated by the frequency with which rubella occurs as a subclinical or inapparent infection. Rubella without rash was described as early as 1953 by Krugman.[13] The extent of inapparent rubella was not recognized, however, until recently. Sever found the ratio of inapparent to apparent clinical rubella in women following known first trimester exposure to be 2:1.[14] In the same study he found clinical rubella more frequent among Negroes. Weller reported a ratio of inapparent to apparent rubella of 6:1.[15] Avery's work supports the observation that rubella can be transmitted to a fetus despite subclinical illness in the mother.[16] In a comprehensive study of a rubella epidemic on St. Paul Island near Alaska in 1963, Brody et al found the highest incidence of rash among those 15-19 years of age; they found no rash among those over 22 years of age.[17]

The size of the problem of the rubella syndrome can only be estimated. Manson reported on a survey of rubella in pregnancy carried out in 1960 by the Ministry of Health in Great Britain.[18] Two hundred fifty-nine children surviving after maternal rubella in the first four months of pregnancy were examined at two years of age and major malformations were found in 15.8 per cent. Sheridan studied the same group of children at 8 to 11 years of age.[19] She found major abnormalities among 15 per cent and minor abnormalities among 16 per cent. Further, when infection occurred during the first 16 weeks of pregnancy the incidence of congenital abnormalities was definitely greater than controls. Hearing

defects were often missed in the first two years of life, a finding documented by Giles in the United States.[20] Defective vision was also observed for the first time after eight years of age in a number of the rubella children in the Manson study. Interestingly, defective intelligence, often noted in rubella infants, was found by Manson to be normalized out of significance by 8 to 11 years of age, as measured by the Terman-Merrill Standardization Test. A major rubella epidemic in the United States during 1963 and 1964, to be discussed later in this report, affected thousands of pregnancies and is striking evidence of the incidence of the rubella syndrome.

The Rubella Virus

The rubella virus has been isolated from affected persons and grown in tissue culture, an accomplishment the impact of which has been highly significant in rubella research. In 1962 Parkman and his associates isolated rubella virus from throat washings of military recruits during an epidemic in the eastern United States.[21] The Parkman technique of rubella virus identification consists of interference with ECHO virus type 11 in green monkey kidney tissue culture. Weller reported a second method of rubella virus isolation at the same time, consisting of unique cytopathogenic changes in human amnionic tissue culture.[22] Using these techniques, rubella virus has been recovered from virtually every stage of developing fetus following maternal rubella, and in pregnancies terminated because of exposure to rubella.[23]

The rubella virus has been observed with the electron microscope and found to consist of particles with cores 130 millimicrons across, on the average, surrounded by an envelope which is outwardly smooth.[24] Its size is 120-280 millimicrons across. Only one strain has been antigenically identified to date, according to Sir Christopher Andrews.[24] The virus is ether sensitive, stable at -70 degree Centrigrade, and grows on many cell types.[15] Other than the above, little is known at the present about the rubella virus. Its method of replication, for example, is undisclosed. Maassab, on the other hand, feels that the rubella virus is apparently an RNA virus.[25]

Immunity to Rubella

Intrauterine infection with rubella virus usually induces a significant antibody response that persists for years.[26] The question of immunity to rubella, like many aspects of this disease, however, is not straightforward. Watson reports a case of rubella which he treated in a six weeks old female in 1940, for example, and at 23 years of age this patient had a second attack of rubella which he proved serologically.[27] There was a low positive titer of neutralizing antibody in the acute specimen of blood taken within twenty hours of the rash and a sharp rise of titer in the convalescent specimen.

Sever reported recently a survey of the general population of Montgomery County, Maryland, in which rubella antibody was present in 35 per cent among those 1-10 years of age, and 85 per cent among those 16-25 years of age.[28] Approximately 15 per cent of the adult population tested, therefore, were susceptible to infection with rubella. Brody found 10 per cent of those exposed in a 1941 epidemic of rubella on St. Paul Island did not have antibodies, and again in the 1963 epidemic 10 per cent did not have antibodies.[17] Those who did acquire immunity in the earlier epidemic, even in the absence of reexposure for over twenty years, had virtually solid immunity.

In spite of neutralizing antibody titers in babies of rubella mothers, rubella virus continues to be excreted after birth and is easily grown in tissue culture.[29] An important question is thus posed: Why then is the fetus so severely affected, despite its ability to respond to in utero infection with antibody production? This question has not been definitively answered. One possibility is that damage from rubella may occur prior to

development of immunologic competence of the fetus. It is known, however, that transplacental transfer of maternal rubella neutralizing antibody begins during the first trimester.[30] Alford indicates that the 7S maternal antibodies should be distinguished from the 19S antibodies which are elaborated by the fetus.[30] On the other hand, Bellanti states unequivocally: "The data suggest that following intrauterine infection with rubella virus, the level of neutralizing antibody in the sera of affected infants represents de novo synthesis by the infant." [31] According to Plotkin, the immunological aspects of children born with the rubella syndrome have three logical outcomes: (1) the child is born immune, (2) the child is born incapable of making rubella antibodies, or (3) the child is born without antibodies but develops them later in the course of a postnatal infection.[32] Whatever the ultimate answer, there is no evidence that children with the rubella syndrome differ immunologically from other children.

The Mechanism of Rubella Syndrome

A review of the literature suggests that the mechanism by which the rubella virus damages the developing fetus has not been elucidated. The possibilities appear to have been reduced, however, to one of tissue damage versus chromosomal insult, or, at most, a combination of the two. Selzer examined the fetus of a mother who was aborted ten days after the onset of rubella and found no chromosomal damage.[9] In addition, Mellman analyzed the chromosomes in cultured leukocytes of six newborns with the rubella syndrome and found no chromosomal abnormalities.[33] In contrast to these findings, however, Kay recovered rubella virus from an infant 18 weeks of age which caused breaks in all chromosomes of tissue culture cells except 19-22 and Y.[34] Further, Weidemann reported one case of a six year old child with rubella syndrome in whom chromosomal abnormalities were believed to be the result of the rubella virus.[35]

Chromosomal breaks have been observed in aborted embryos of maternal rubella.[34] Plotkin has also reported that "chromosomal changes were noted after establishment of rubella virus in cell strains from skin or pharyngeal mucosa. An average of 50 per cent of mitoses examined had breaks or gaps." [36] The breaks in the chromosomes persisted for at least three months after infection.

Recent Rubella Epidemics

Rubella epidemics struck many areas of the United States in 1963 and 1964. Most agree that rubella epidemics occur every six to twelve years and in this regard the American epidemics were not unusual. In other respects, however, the epidemics brought new manifestations of the rubella syndrome, the number of which justify Rudolph's terminology of the "expanded rubella syndrome" .[37] Purpura had not been a conspicuous feature until the recent epidemics yet it was common in Houston, New Haven, and New York City—in 1964.[10] Cochran described two cases of thrombocytopenic purpura at birth with rubella virus grown out in human amnionic cultures from pharynx and tears.[29] The purpuric lesions were so striking that the nurses referred to one case as the "blueberry muffin baby". In both cases the purpura cleared in four weeks. Congenital rubella, a multisystems disease, apparently caused purpura through intravascular coagulation, with platelet agglutinins found in most cases.

Also prominent as new manifestations of the rubella syndrome were hepatosplenomegaly and bone lesions.[38] In Philadelphia, hepatosplenomegaly was found among 33 per cent of the surviving rubella babies and radiographic bone lesions were found also among 33 per cent.[38] Memphis reported myocardial necrosis, interstitial pneumonia, regurgitative jaundice with hepatosplenomegaly, and bone lesions.[39] Bone lesions were found among 22 per cent of the rubella infants in New York City, consisting of irregular areas of radiolucency in the meta-

physes which completely cleared in six to eight weeks.[40] These findings existed in addition to the common findings usually associated with the rubella syndrome. Reviewing the new findings, Korones concluded that the congenital rubella syndrome is a "generalized chronic infection which begins in utero and persists for several months after birth." [41]

Gamma Globulin and Rubella

Consistent with many other aspects of rubella, the question of the role of gamma globulin in preventing or reducing the fetal damage in maternal rubella is not altogether a settled one. Lundstrom, in one of the most comprehensive studies of rubella at the time, found that convalescent gamma globulin seemed to provide good passive immunity in 251 exposed females, but not in 28.[9] Krugman and Ward advocate 20 cc of gamma globulin for pregnant women as soon after exposure as possible.[43] Brody found that gamma globulin prevented infection in 50 per cent of the recipients, but this high rate of protection might have been related to the fact that the majority of the subjects received gamma globulin just before exposure.[44] Green, on the other hand, found that gamma globulin had no prophylactic effect in subjects who were repeatedly exposed to patients ill with rubella for prolonged periods of time.[45] Further, gamma globulin did not prevent viremia in such subjects but did produce significant reductions in the duration and degree of viremia.

A rubella vaccine may be available in the near future, according to Weller.[15] Efforts to achieve this objective have not been fruitful to date, however. A rubella virus isolated from an aborted human fetus and grown in human diploid cells was used to induce infection in children.[46] Subcutaneous inoculation of the virus regularly produced infection in seronegative children, while intranasal instillation gave poor results. Neutralizing antibodies produced by the injection prevented reinfection in three children who were inoculated with larger doses of the rubella virus. Contact infections were noted, however, in some of the children who were later exposed to primary cases of rubella.

Lundstrom holds that deliberate exposure of girls to rubella is the only practical means of actively immunizing against maternal rubella at the present.[42] It is difficult, on both clinical and ethical grounds, however, to accept this procedure in the face of known complications and the incidence of inapparent illnesses.

Summary

The history of rubella has gone through three stages: the descriptive stage which began in 1740 and ended in 1829 when its identity was established apart from rubeola and scarlet fever; the dormant stage from 1829 to 1941 during which time little active interest in the disease was recorded; and the destructive stage, beginning with Gregg's astute observation of the devastating effect it can have on the developing fetus. The rubella syndrome, an entity described no longer than two and one-half decades ago, has necessarily been expanded to include a number of clinical manifestations heretofore not associated with maternal rubella.

Of the offspring of women who contract German measles during the first trimester of pregnancy, 15-20 per cent are affected with one or more serious and grossly discernable congenital malformations. Another 20-30 per cent will have hearing loss, and 50 per cent or more will be congenitally deformed if the disease strikes the mother during the first four weeks of pregnancy.

The new, expanded rubella syndrome includes thrombocytopenic purpura, transient bone lesions, hepatitis, hepatospenomegaly, and anemia. The older features, cataracts, decreased maturity, congenital

heart disease, deafness, microcephaly and mental deficiency are no less common than previously.

The rubella virus has been isolated and grown in tissue culture but its exact nature remains obscure. A vaccine is in the offing but until it is available the expanded rubella syndrome is a significant and complex medical problem.

---

217 Park Place
Charlottesville, Virginia

Editor's Note: A list of references may be obtained from the author.

Baby Boom Ending

The number of births has continued to decline from its record high postwar level.

In 1965 about 3,759,000 babies were born in the United States, compared with 4,027,490 in 1964 and with the all-time high of 4,334,000 in 1957. Moreover, the indications are that the total will drop still further this year to little more than 3,600,000 —approximate level in 1950. This expected number of births corresponds to a rate of about 136 per 1,000 married women under age 45. It is considerably below the annual rates of the postwar years, but exceeds those recorded during the depression of the 1930's.

Equally striking has been the pronounced decrease during the 1960's in the frequency with which moderate-sized families have another child. The annual rate for fourth births, 21 per 1,000 in 1961, dropped to 15.7 in 1965—a decline of 25 percent. The decreases during the corresponding period were almost as large for later births, the rate for which fell short of their levels in the 1920's. The rate for fifth children, for example, at its recent peak during 1959-62, was no higher than 12 per 1,000 married women under age 45, compared with 15 per 1,000 prior to 1922. This rate fell to 9.3 in 1965. For sixth and later children the disparity was considerably greater, the recent peak rate being only one half that which prevailed at the time of the first World War. There seems little likelihood of a return to the large families of several generations ago.

As the baby boom subsides, the question naturally arises as to the outlook for the future. In this connection it should be noted that there now is no large backlog of depression- or war-deferred births to be made up, as was the situation at the close of World War II. Also, it is unlikely that there will be a further shift toward earlier marriage and family building. Nevertheless, a future rise in the number of births is almost inevitable. Already, the annual number of first births has increased from 1,118,000 in 1960 to over 1,160,000 in 1965, and 1,200,000 are expected this year. Their number should rise even more rapidly in future years as the large contingents of postwar children reach marriageable age and build their own families. The continued deferment from military service of men with children may also contribute to the upswing of first births for the duration of the Vietnam conflict. Within the next two or three years, therefore, the increasing numbers of first births should offset any continuing downswing in the higher orders of births. Thereafter, the number of total births should continue to climb until new record highs are reached sometime in the decade of the 1970's.

—(Metropolitan Life Insurance Co.)

Clinicopathological Conference . . . .

Remitting Muscular Weakness, Later Cardiomegaly and Dyspnea.

Prepared and edited by
LOCKHART B. McGUIRE, M.D.
DAVID E. SMITH, M.D.
University of Virginia
Charlottesville, Virginia

CLINICAL DISCUSSANT:

F. E. Dreifuss, M.D., Associate Professor of Neurology

This conference was held on October 15, 1966
UVH #41-85-66
Autopsy No. 10807

Clinical History

This was the second University Hospital admission for this 60-year old storekeeper because of breathlessness.

Approximately four years previously he developed a somewhat migratory arthritis—with swelling, heat, and tenderness of hands, wrists, elbows, shoulders and knees. Symptomatic measures were relatively ineffective, and generalized weakness and a 20-lb. weight loss followed. His weight had stabilized and appetite improved, but he was admitted for diagnostic evaluation four years before his death.

At that time the only additional history included moderate chronic cough and wheezing, with some exertional dyspnea, but no orthopnea or paroxysmal nocturnal dyspnea. There had been a possible superficial phlebitis near a subsequently involved ankle joint at the time of onset of the arthritis. Otherwise past medical history was unremarkable. He had been a smoker, but had given up a previously heavy use of alcohol.

At the time of his first admission he had appeared chronically ill, pulse 108, temperature normal, blood pressure 140/86. Weakness of proximal muscle groups was conspicuous, and objective joint swelling was slight. There were weakness and atrophy of the shoulder muscles. There was some palmar scaling bilaterally. Occasional wheezes and rales were heard diffusely in both lungs. The liver was down 3 cm. and accompanied by low diaphragms. There was tenderness of the elbows and wrists and reduced muscle power in the upper extremities. There was slight pitting edema of the ankles.

An extensive laboratory survey at that time included: Hct 36%, WBC 12,800, negative stool and latex flocculation, sed rate 21 mm/hr., normal glucose, urea, electrolytes and albumin/globulin ratio. Prothrombin time normal, alkaline phosphatase 10.3 (normal <5 units). BSP 12% retention. Bilirubin, cholesterol, uric acid normal. Tuberculin skin test positive. EKG showed non-specific T-wave changes. Multiple sputa, including those taken at bronchoscopy, were negative for acid-fast bacilli, fungi, or malignant cells. (One atypical cell was seen in one of many smears.) RAI uptake 23%.

During the first admission in 1962 bronchoscopy was negative, and needle liver biopsy showed only a few, small granulomata. Neurology consultant suggested that the patient had a diffuse myositis. A left biceps biopsy was reported as "either myositis or dystrophy. There are only a few individual fibers with changes that indicate either of the two suggested diseases."

After the above studies, a course of antibiotic treatment for chronic bronchitis, and salicylates for the joint pain were given. These measures were followed by symptomatic improvement in strength and appetite. Subsequently the patient remained relatively well for the next three and a half years. About six months before his final admission he developed progressive exertional dyspnea, weakness, weight loss and

dependent edema. He was unable to give more history at the time of final admission.

Physical examination on 8/6/66 showed him to be an acutely dyspneic, cyanotic, Negro man with cool, moist skin, blood pressure 90 systolic by palpation. There was increased jugular venous pressure. Skeletal musculature was not grossly remarkable. There were bilaterally diminished breath sounds, diffuse rhonchi, and distant heart sounds. A liver edge 4 fb. below the right costal margin was the only abdominal abnormality. There was 3+ pitting edema to the knees.

Laboratory studies included Hct 56%, WBC 8100, urea 114, Na 134, K 5.8, CO_2 27, Cl 86, arterial pCO_2 87 mm. Hg. (normal 40 mm.Hg.), pO_2 10 (normal 75-100 mm.Hg.), pH 7.14. While he was in the X-ray Department, ventricular fibrillation occurred. Resuscitative measures were initially successful, and a tracheostomy was performed for ventilatory assistance. Nevertheless, refractory ventricular fibrillation developed again the same day.

Clinical Discussion

Dr. Dreifuss: It interests me that you have asked a neurologist to discuss this case. The story begins with arthritis and ends with low-cardiac-output failure. So those of you who are preparing for board examinations in internal medicine will surely want to get out your pencils and paper today.

The problem can be divided into two parts. There was an illness about four years before the final admission consisting of arthritis, generalized weakness, and a 20-lb. weight loss. There is very little other pertinent information. He may have had chronic bronchitis and emphysema because of the history of cough and wheezing, and he was noted to have smoked. His other bad habit had apparently been given up at some unknown point in the past. The second problem is to explain the terminal episode, and I will save that for later.

Physical examination on the first admission confirmed the findings associated with mild emphysema. The note of palmar scaling is intriguing. Palmar scaling may occur with any chronic disease, but the fact that it is mentioned here instead of so many other points of information, which I would have preferred to have, makes me mention it. This has been associated with chronic arsensic poisoning, and used to be seen in patients receiving arsenic for the treatment of syphilis. Nothing else about this story leads us in that direction. I will say more about the report of reduced muscle power in the upper extremities in a moment.

Arthritis which begins in a 60-year old man and is migratory is unlikely to be of the osteoarthritis or degenerative variety. Palmar scaling and the migratory character are consistent with the arthritis seen in psoriasis, which generally resembles rheumatoid arthritis, but there is no further evidence of psoriasis. Gout is unlikely in view of the normal uric acid. That leaves us with rheumatoid arthritis, or the similar joint disease which may occur in any of the "collagen diseases", or possible pulmonary osteoarthropathy.

The extensive studies which were performed at that time gave no specific explanation for any of this group of symptoms. The negative latex flocculation reduces considerably the possibility of rheumatoid arthritis. The abnormal alkaline phosphatase and bromsulphalein retention lead us to look at the liver, and a liver biopsy was performed. There is only the history of prior alcohol consumption to explain hepatic functional impairment. First, may we look at the x-rays which were done on that first admission?

Dr. Keats: The wrists and hands show only slight demineralization of bone at the joint margins without focal destruction or proliferation. This is not the appearance of pulmonary osteoarthropathy, which characteristically shows proliferation. This could be early rheumatoid arthritis, or any of the

collagen-vascular types of arthritis. A chest film in 1962 was normal. There was an episode of pneumonitis in the left upper lobe in 1963, but the later films were normal (see Fig. 1) after a course of antibiotics. This process was presumably infectious in origin.

Fig. 1. Normal chest x-ray in 1963. There had previously been an episode of muscle weakness, and an episode of pneumonitis in the left upper lobe, but both of these had cleared at the time of this film.

Dr. Dreifuss: Thank you. Next there is the liver biopsy. This report confuses me. Why would one say that there were "*only* a few, small granulomata"? Granulomata in the liver should be an important point in narrowing the range of etiologic possibilities. The possibilities of tuberculosis and sarcoid come up immediately. It would be important to know more about these.

Dr. William Hunt: I might add that the positive tuberculin skin test practically rules out active sarcoidosis.

Dr. David Smith: This is a problem in the choice of language. It depends on what one means by a granuloma. In this case the report read, "There are a few small collections of mononuclear cells (granuloma)." It went on to say that otherwise the liver was normal, and that no Langhans' giant cells were present.

Dr. Dreifuss: I gather then that I should ignore the liver biopsy. Finally, we come to the point at which a neurologist was consulted. This seems to be the muscle weakness, which was said to be most pronounced in the upper extremities. The tenderness seemed to have been more marked over the joints than over the muscles. This is a very inadequate description from which to try to decide the cause of muscle weakness, which could have been vascular, metabolic, neural or primarily muscular in origin.

Dr. McGuire: Would you like to have the complete note of the consulting neurologist at that time?

Dr. Dreifuss: Yes.

Dr. McGuire: The note reads as follows: "Thank you for asking us to see this patient. On examination today he has (1) small, poorly reacting pupils; (2) gross weakness and wasting of girdle muscles and marked tenderness of shoulder muscles without reflex or sensory changes; (3) coarse tremor of the hands, right more than left, and fasciculations of the upper limb musculature; (4) arthropathy without heat, redness or swelling; (5) evidence of severe weight loss. The picture is that of myositis, possibly due to an occult carcinoma. Would recommend muscle biopsy from biceps, x-rays of chest and GI tract, sed rate, and serum protein electrophoresis. (signed) F. Dreifuss."

Dr. Dreifuss: Ah, such chickens do come home to roost, don't they? Before deciding whether or not to agree with that consultant, let me comment on the report of the muscle biopsy. The protocol quotes this biopsy as having shown "either myositis or dystrophy". The computer of neurological diagnosis excludes the presence of muscular dystrophy beginning in the shoulder girdle in a 60-year old man. I have been told by the pathologists that this is another linguistic problem. What is meant, I gather, is that there was evidence of degeneration in

the sarcoplasm of muscle fibers with relatively slight inflammatory infiltration, which should accompany a true myositis. In that sense dystrophy was present.

This patient had a form of neuromyopathy. By far, the likeliest cause of such a patible with either diagnosis. There was no form of muscular involvement which accompanies occult neoplasm. This condition has been extensively studied by Lord Brain and associates.[1,2,3] Shy and Silverstein[4] reported that of 26 patients with carcinomatous neuromyopathy, the myopathy antedated the discovery of the carcinoma in 22. The neuromyopathy occurred from three months to four years before the tumor was found. These authors also studied the relative frequency of location of the primary tumor, finding lung and breast far in the lead. If one considers the general problem of proximal muscle weakness in men after age 50, it will be found to be associated with a carcinoma in some 70% of patients showing such weakness. The peak incidence of carcinomatous neuromyopathy is in the sixth and seventh decades, and migratory arthropathy occurs in 19% of patients with carcinomatous neuromyopathy.[4]

Dr. T. R. Johns: What exactly do you mean by "neuromyopathy"?

Dr. Dreifuss: The term neuromyopathy was coined by the London Hospital group including Brain, Croft and Wilkinson because of the difficulty in distinguishing muscular weakness of neural and muscular origin. The term has now been extended to include cerebellar degeneration, myelopathy, carcinomatous amyotrophic lateral sclerosis, sensory neuropathy, mixed peripheral neuropathy, dermatomyositis, polymyositis, the myasthenic syndrome and mixed groups of the above categories. The term is deplorable because it encourages diagnostic slovenliness, but it appears to be here to stay, in the context of complications of occult neoplasms. In the case under discussion, I would have little hesitation in labelling this "polymyositis".

Let me return to the protocol in this case now. It seems striking that this man achieved a distinct improvement in symptoms for over three years with no more than antibiotics for his bronchitis and some aspirin. This course, I believe, favors rather than opposes the diagnosis of neuromyopathy associated with malignancy. Lupus erythematosus or periarteritis would have been unlikely to undergo such a remission. In contrast, several of the patients with malignancy in Henson's series[2] did show spontaneous and unexplained improvement in their muscular weakness. Parenthetically, I might add at this point that the mechanism of the muscular damage in certain carcinomas is unknown. This is only one of several mysterious conditions which may accompany neoplasms of the lung in particular, including the inappropriate secretion of anti-diuretic hormone with hyponatremia, or secretion of a cortisone-like substance with Cushing's syndrome, or focal damage to the central nervous system resulting in what has been called "multifocal leukoencephalopathy".

The final episode of this man's life is not susceptible to very detailed analysis because the recent history was rather sketchy, and he lived only a few hours after arriving at the hospital. Physical examination showed a picture of acute circulatory failure, with arterial hypotension and other signs of shock, dyspnea, and cervical venous engorgement. I would particularly like to know whether there was conspicuous absence of pulsation of these veins as might be observed in cardiac tamponade.

Dr. Burton Ashman (resident): We were not impressed with the pulsations of his veins. His blood pressure later improved briefly, a search for arterial pulsus paradoxicus was made, but this was not found.

Dr. Dreifuss: No electrocardiogram seems to have been made. His arterial gases are quite striking, since they are incompatible with life!

Dr. Ashman: Ventricular fibrillation oc-

curred five minutes after they were drawn.

Dr. Dreifuss: This man was previously considered to have relatively mild pulmonary emphysema, but at this point he has an arterial oxygen tension of 10 mm.Hg. and a pCO_2 of 87 mm Hg. At the same time his plasma bicarbonate was only 27 mEq./L., which is relatively normal. Dr. Hunt, can you comment on these?

Dr. Hunt: These extremely abnormal values represent practically total failure of ventilation. The severe acidemia in the pH of 7.14 and high CO_2 tension must have developed recently and rapidly in order for the bicarbonate not to have risen also. If ventilatory failure is chronic and severe, due to emphysema, there is compensatory retention of bicarbonate and elevation of the serum level. In terms of the degree of pCO_2 elevation, we usually believe that elevations above 80 mm.Hg. have to be iatrogenic; that is, they occur when respiratory effort is suppressed in a person with chronic ventilatory failure by the well-meant, but possibly fatal administration of oxygen. Such patients know that they need to breathe only because of hypoxemia, and if that is partially relieved by the giving of oxygen, they may stop breathing. This leads to elevations of pCO_2 of the degree seen here. However, I have been told that this man never received oxygen, so I suppose these values are best explained by some acute, very severe failure of ventilation, maybe of neuromuscular origin more than emphysema alone. As Dr. Dreifuss commented and as the patient soon proved, these blood gases are incompatible with life.

Dr. Dreifuss: Finally, the x-rays at this time showed a marked increase in the cardiac silhouette and a parenchymal density. I felt that the globular configuration and sharp angle at the junction of the right atrium and diaphragm were in favor of pericardial effusion. What about this, Dr. Keats?

Dr. Keats: There is enlargement of the cardiac shadow (Fig. 2), but I do not believe it is due to pericardial effusion. The presence of a sharp right cardiophrenic angle is not very useful in excluding dilatation of the heart itself. In fact, the prominent rounding of the mid-portion of the left cardiac border instead of at the lower apex is more consistent with cardiac dilatation and hypertrophy than with effusion. There is also the obvious, rounded density in the left lung. The most likely cause is neoplasm, but we could not say whether it is primary or metastatic.

Fig. 2. Chest x-ray which was made a few minutes before the patient's death in 1966. There is a globular increase in the cardiac shadow and a large, circumscribed mass in the left upper lobe.

Dr. Dreifuss: I am disappointed in the lack of support for my idea that the terminal episode consisted of acute cardiac tamponade due to a malignant effusion. It is conceivable that the heart could be involved by muscle damage, but we really have insufficient information to evaluate the status of his muscles on this last, brief admission. The appearance of a lesion in the lung, however, would strengthen my belief that the period of muscular weakness which was observed three years previously was, in fact, due to the neuromyopathy associated

with occult malignancy. In conclusion, Dr. Smith, I would only implore:

"Say not the struggle naught availeth
The labor and the wounds are vain. . . ."

Dr. Dreifuss' Diagnosis:

1. *Neuromyopathy associated with occult malignancy.*
2. *Terminal cardiopulmonary failure, either pericardial tamponade or respiratory paralysis.*

Pathological Discussion

Dr. D. E. Smith: The histologic evidence of polymyositis in this patient was never as distinct as was the clinical evidence. As Dr. Dreifuss has indicated, the original biopsy taken four years before the death of the patient contained only a relatively few fibers with changes that were insufficiently specific to distinguish between a dystrophy or a myositis. The few involved fibers (Fig. 3) were hyalinized, varied in size or had central condensation of nuclei that would be compatible with either diagnosis. There was no significant interstitial infiltrate. Additional specimens of muscle at autopsy contained changes of about the same nature and extent: hyalination and floccular degeneration of fibers, collections of sarcolemmal nuclei and slight interstitial infiltration of mononuclear cells.

The incidence of carcinoma in patients with dermatomyositis has been relatively slow to get the emphasis that it deserves. It was only fairly recently that Arundell, Wilkinson and Haserick of the Cleveland Clinic[5] emphasized that over half the people over forty years of age who develop dermatomyositis have a carcinoma. The incidence of coincident carcinoma in *all* patients with dermatomyositis is of the order of 15 per cent in most series.

The lungs were slightly emphysematous and contained a few old scars, probably of tuberculous origin. In the upper lobe of the left lung there was a spherical tumor immediately beneath the pleura (Fig. 4). On the surface the tumor penetrated the pleura and was surrounded by a fibrous scar, a typical appearance for a type of peripheral carcinoma of the lung. No metastases were found in lymph nodes at any other site. Histologically, it was a keratinizing epidermoid carcinoma (Fig. 5).

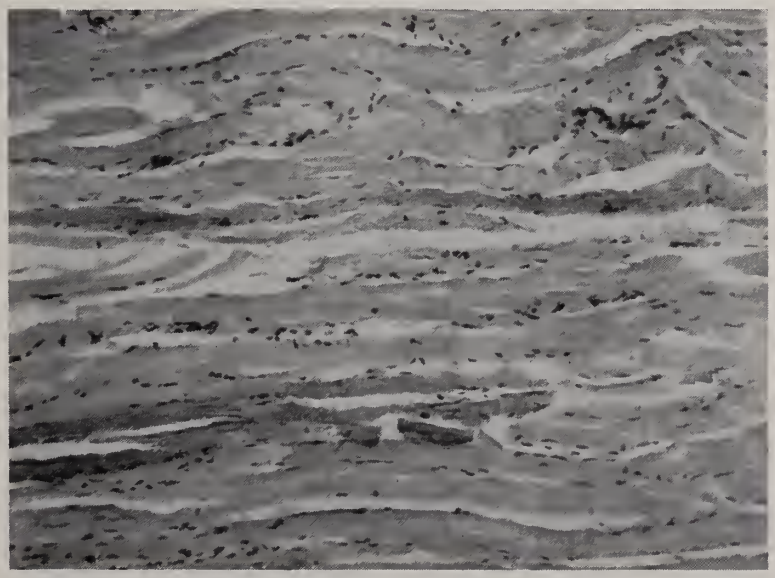


Fig. 3. Biopsy of skeletal muscle four years before death. Hyalinization and shrinkage of a few fibers, conglomeration of muscle nuclei, increase of sarcolemmal nuclei, and a slight interstitial infiltrate of round cells are compatible with the clinical diagnosis of polymyositis. (H. & E. stain, approx. 200X.).

The heart was moderately enlarged to a weight of 600 gms, and the hypertrophy and dilatation were particularly distinct of the right ventricle. In the septum there was an irregular, fine, and atypical, but rather

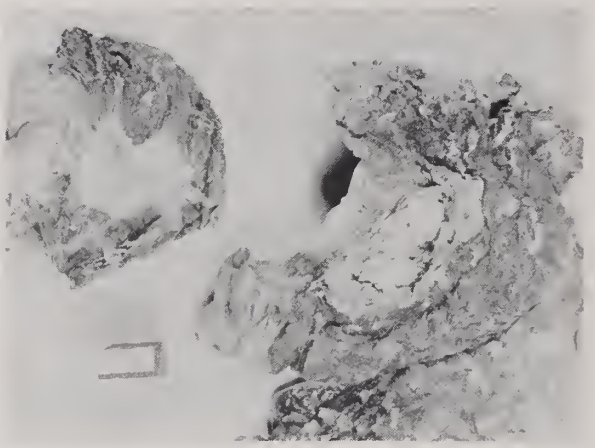


Fig. 4. Peripheral carcinoma in the upper lobe of the left lung. The specimen on the left shows the pleural aspect with scar about the tumor. On the right a cut section shows the sharply delimited boundaries of this tumor which had not metastasized.

extensive scar. The coronary arteries were devoid of any significant atherosclerosis or other cause of narrowing. In microscopic sections this scar, and others that were not appreciated grossly in various parts of the heart, were composed of areas in which the muscle fibers had dropped out and there was interstitial cellular infiltration (Fig. 6). In some areas the process had progressed to small, dense, fibrous scars. The liver had the changes of chronic, passive congestion.

Myocarditis in cases of polymyositis or dermatomyositis appears to be a neglected subject. Dr. Hopps writing in Anderson's textbook[6] says it is relatively common but gives no reference, and the reference in Dr. Gould's *Pathology of the Heart*[7] is to a paper by Dr. Kinney and Moher written in 1940.[8] That report is one of the earlier descriptions of the pathologic lesions in cases of dermatomyositis. Two cases were examined at autopsy, and the myocardium in both is described as having areas of edema and some infiltration of cells. The literature after this time seems relatively silent, except that in the French literature there are a number of references during the last five or six years to abnormal cardiac function and electrocardiographic changes in clinical cases of dermatomyositis. The absence of skin changes makes it more appropriate to label this case as polymyositis than as dermatomyositis.

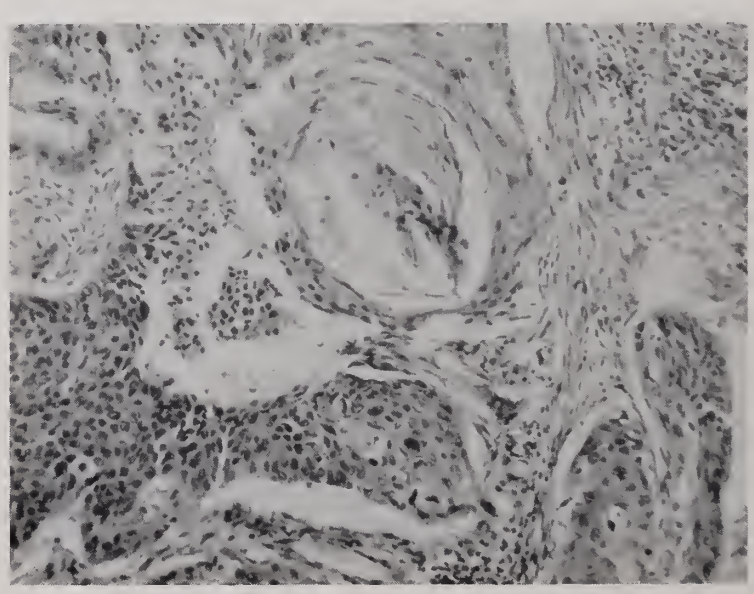


Fig. 5. Epidermoid carcinoma of the lung with well keratinized whorls and pearls. (H. & E. stain, approx. 200X.)

In summary, this was the case of a man who had polymyositis in association with a bronchogenic carcinoma. The bronchogenic carcinoma was of a peripheral type, although it did impinge on a bronchus in the

outer part of the lung. The duration of clinical myositis gives evidence in this case that the tumor was of at least four years duration. In addition, this man developed a rather intense and fairly widespread myocarditis which led to hypertrophy and dilatation of his heart and a terminal episode of heart failure. We do not have any other really specific explanation of his terminal respiratory imbalance.

Fig 6. A focus of myocarditis of moderate intensity. Muscle fibers have been completely destroyed and there is interstitial cellular infiltration. Other foci contained greater amounts of infiltrate, reaction of muscle fibers, or scarring. The coronary areries were not sclerotic or occluded. (H. & E. stain, approx. 200X.)

Dr. J. Edwin Wood, III: Could there have been a contribution to the respiratory failure from myositis of the diaphragm?

Dr. Smith: That there was emphysema and some scarring of the lungs should not be forgotten. The relative importance of cardiac failure, chronic pulmonary disease, and myositis of the respiratory muscles would be impossible to determine. We did demonstrate involvement of muscles of the thoracic wall, but unfortunately we failed to examine the diaphragm, except that grossly it was not considered remarkable.

Anatomical Diagnoses

Epidermoid carcinoma.
Polymyositis.
Interstitial myocarditis.
Congestive cardiac failure.

Bibliography

1. Brain, W. R.: The Remote Effects of Cancer on the Nervous System. Ed. by W. R. Brain and F. H. Norris, Jr. New York, Grune & Stratton, 1965.
2. Henson, R. A., Russell, D. S., and Wilkinson, M.: Carcinomatous Neuropathy and Myopathy. Brain 77: 82-121, 1954.
3. Croft, P. B., and Wilkinson, M. The Incidence of Carcinomatous Neuromyopathy in Patients with Various Types of Carcinoma. Brain 88: 427-434, 1965.
4. Shy, G. M., and Silverstein, I.: A Study of the Effects Upon the Motor Unit by Remote Malignancy. Brain 88: 515-528, 1965.
5. Arundell, F. D., Wilkinson, R. D., and Haserick, J. F.: Dermatomyositis and Malignant Neoplasms in Adults. Arch. Derm. (Chicago) 82: 772-775, 1960.
6. Hopps, H. C.: Hypersensitivity Diseases, in W. A. D. Anderson. Pathology, 5th ed., pp. 379-380. St. Louis, C. V. Mosby Co., 1966.
7. Gould, S. E.: Pathology of the Heart. 2nd ed., p. 797. Springfield, Illinois, Charles C. Thomas, 1960.
8. Kinney, T. D. and Maher M. M.: Dermatomyositis. Am. J. Path. 16: 561-594, 1940.

Mental Health . . . .

JULIAN C. HOUSEMAN

Virginia Regionalizes Mental Hospital Admissions

The State Hospital Board has adopted a plan for the admittance of mental patients to the four hospitals on a regional, geographic basis, without regard to race, in response to the United States Department of Health, Education and Welfare requirements for compliance with the Civil Rights Act of 1964.

The plan also provides for a review of the patients already in the hospitals to determine those who are not in the proper hospital in accordance with the regional, geographic assignment basis. This review is under way and the actual transfer of the first patients began March 1. There will not be any mass transfers, but an orderly process with due consideration for the patients.

In the transfer of patients, several factors will be considered. These factors are: (1) the specific disease condition, (2) the treatment program in process, (3) the wishes of the patients and/or their guardians, committees or correspondents, which will be a factor, but will not prevent transfer, and (4) the availability of a bed in the hospital to which the transfer is indicated. A waiting list will be established where beds are not available.

Separate regions are established under the plan for the mentally deficient and those patients suffering from brain damage as well as those committed under the criminal statutes.

The regions for the four mental hospitals are:

Region 1 (Southwestern State Hospital)—The counties are Bland, Buchanan, Carroll, Dickenson, Floyd, Giles, Grayson, Lee, Montgomery, Patrick, Pulaski, Russell, Scott, Smyth, Tazewell, Washington, Wise and Wythe. The cities are Bristol, Galax, Norton, and Radford.

Region 2 (Western State Hospital)—The counties are Albemarle, Alleghany, Amherst, Arlington, Augusta, Bath, Bedford, Botetourt, Clark, Craig, Culpeper, Fairfax, Fauquier, Fluvanna, Franklin, Frederick, Greene, Highland, Loudoun, Louisa, Madison, Nelson, Orange, Page, Prince William, Rappahannock, Roanoke, Rockbridge, Rockingham, Shenandoah, Spotsylvania, Stafford, and Warren. The cities are Alexandria, Buena Vista, Charlottesville, Clifton Forge, Covington, Fairfax, Falls Church, Fredericksburg, Harrisonburg, Lexington, Roanoke, Staunton, Waynesboro and Winchester.

Region 3 (Eastern State Hospital)—The counties are Accomack, Caroline, Charles City, Essex, Gloucester, Goochland, Hanover, Henrico, James City, King and Queen, King George, King William, Lancaster, Mathews, Middlesex, New Kent, Northampton, Northumberland, Richmond, Westmoreland and York. The cities are Hampton, Newport News, Richmond and Williamsburg.

Region 4 (Central State Hospital)—The counties are Amelia, Appomattox, Brunswick, Buckingham, Campbell, Charlotte, Chesterfield, Cumberland, Dinwiddie, Greensville, Halifax, Henry, Isle of Wight, Lunenburg, Mecklenburg, Nansemond, Nottoway, Pittsylvania, Powhatan, Prince Edward, Prince George, Southampton, Surry and Sussex. The cities are Chesapeake, Colonial Heights, Danville, Franklin, Hopewell, Lynchburg, Martinsville, Norfolk,

HOUSEMAN, JULIAN C., *Information Director, Department of Mental Hygiene and Hospitals.*

Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

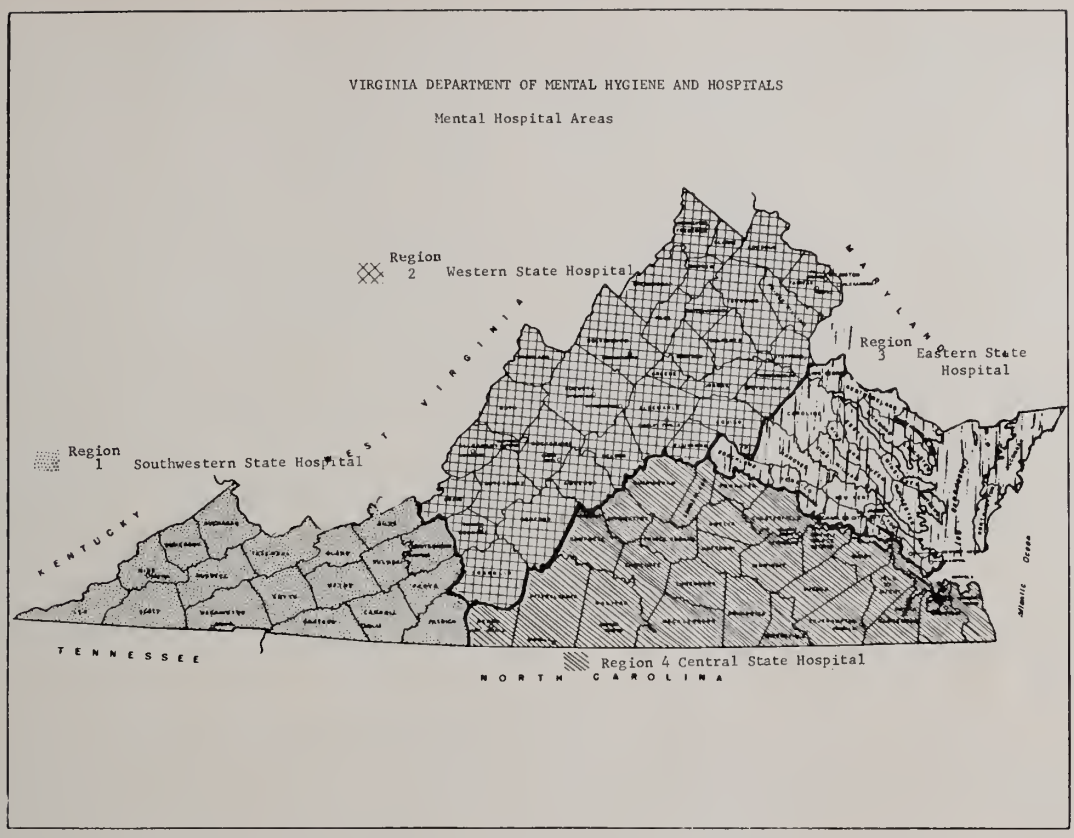

VIRGINIA DEPARTMENT OF MENTAL HYGIENE AND HOSPITALS
Mental Hospital Areas
Region 2 Western State Hospital
Region 3 Eastern State Hospital
Region 1 Southwestern State Hospital
Region 4 Central State Hospital
WEST VIRGINIA
MARYLAND
KENTUCKY
TENNESSEE
NORTH CAROLINA

Fig. 1

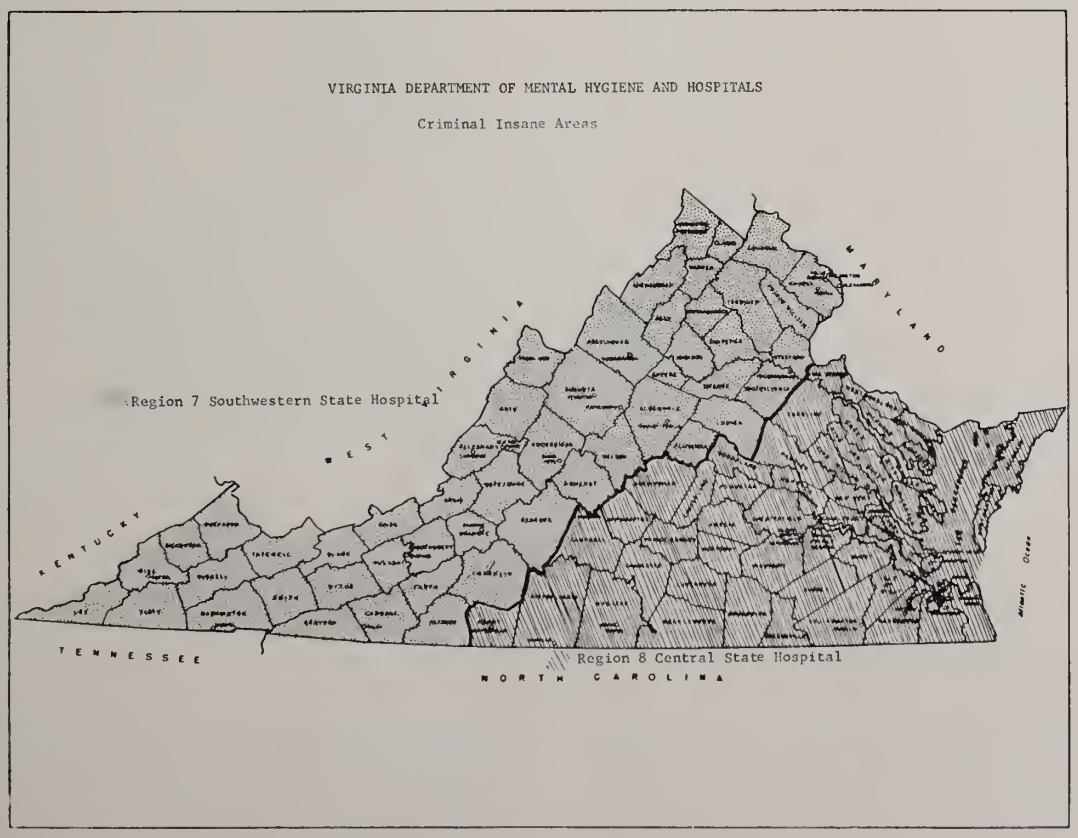

VIRGINIA DEPARTMENT OF MENTAL HYGIENE AND HOSPITALS
Criminal Insane Areas
Region 7 Southwestern State Hospital
Region 8 Central State Hospital
WEST VIRGINIA
MARYLAND
KENTUCKY
TENNESSEE
NORTH CAROLINA

Fig. 2

Petersburg, Portsmouth, South Boston, Suffolk and Virginia Beach.

The Department of Mental Hygiene and Hospitals will inform all committing judges and justices, as well as sheriffs and city sergeants, of the policy with respect to admission of patients on a geographic basis and also with respects to the transfer of such patients when not assigned to the hospital in accordance with the regional plan.

Region 7, for the assignment under criminal procedures, shall consist of Regions 1 and 2 (Southwestern State Hospital and Western State Hospital), with all patients going to Southwestern.

Region 8 for the criminal procedure shall consist of Regions 3 and 4 (Eastern State Hospital and Central State Hospital) with all patients going to Central.

Southwestern and Central are the only two state hospitals with criminal facilities.

Because of the special facilities at Central State Hospital, Petersburg Training School and Lynchburg Training School and Hospital, separate regions have been established for such patients who may be admitted to these institutions.

Region 5 shall be comprised of the counties of Albemarle, Alleghany, Amherst, Appomattox, Arlington, Augusta, Bath, Bedford, Bland, Botetourt, Buchanan, Buckingham, Campbell, Carroll, Clarke, Craig, Culpeper, Dickenson, Fairfax, Fauquier, Floyd, Fluvanna, Franklin, Frederick, Giles, Grayson, Greene, Henry, Highland, Lee, Loudoun, Louisa, Madison, Montgomery, Nelson, Orange, Page, Patrick, Pittsylvania, Prince William, Pulaski, Rappahannock, Roanoke, Rockbridge, Rockingham, Russell, Scott, Shenandoah, Smyth, Spotsylvania, Stafford, Tazewell, Warren, Wise, Washington and Wythe. Also the cities of Alexandria, Bristol, Buena Vista, Charlottesville, Clifton Forge, Covington, Danville, Fairfax, Falls Church, Fredericksburg, Galax, Harrisonburg, Lexington, Lynchburg, Martins-

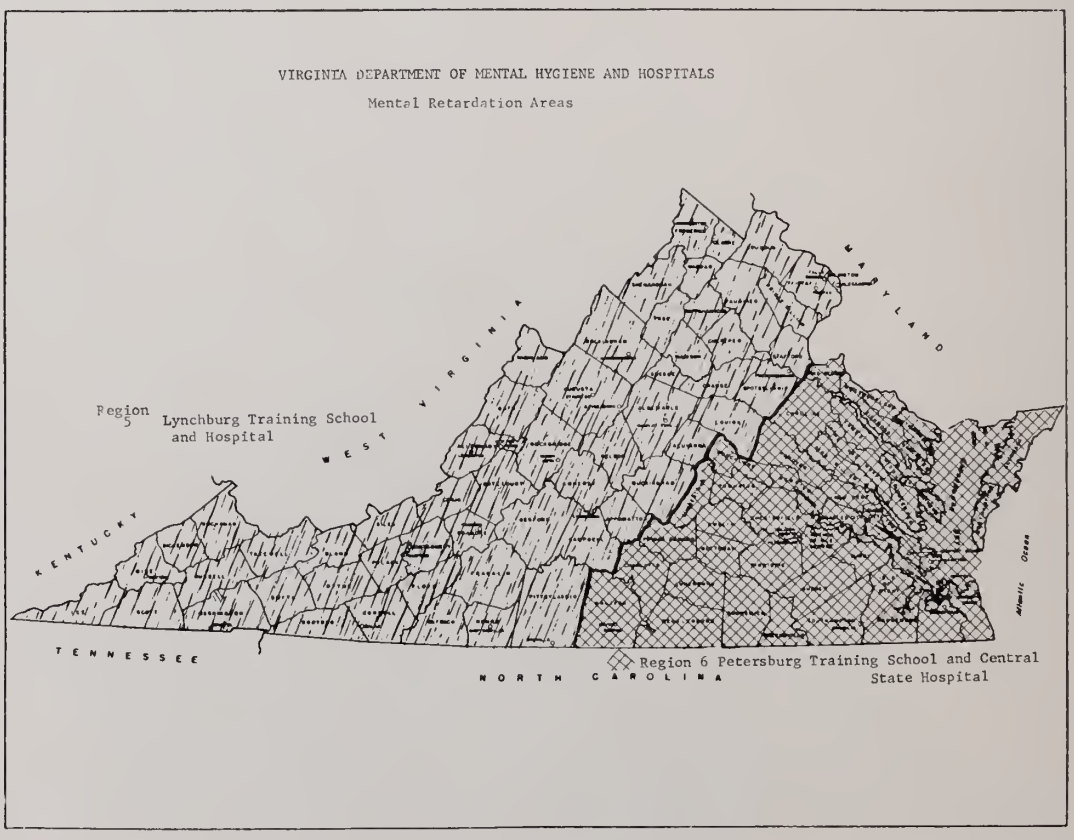


Fig. 3

ville, Norton, Radford, Roanoke, Staunton, Waynesboro and Winchester.

All patients to be admitted in Region 5 because of mental retardation or brain damage will be assigned to Lynchburg Training School and Hospital.

Region 6 will be comprised of the counties of Accomack, Amelia, Brunswick, Caroline, Charles City, Charlotte, Chesterfield, Cumberland, Dinwiddie, Essex, Gloucester, Goochland, Greensville, Halifax, Hanover, Henrico, Isle of Wight, James City, King and Queen, King George, King William, Lancaster, Lunenburg, Mathews, Mecklenburg, Middlesex, Nansemond, New Kent, Northampton, Northumberland, Nottoway, Powhatan, Prince Edward, Prince George, Richmond, Southampton, Surry, Sussex, Westmoreland and York. Also the cities of Chesapeake, Colonial Heights, Franklin, Hampton, Hopewell, Newport News, Norfolk, Petersburg, Portsmouth, Richmond, South Boston, Suffolk, Virginia Beach and Williamsburg.

Educable retardates between the ages of 8 and 18 in Region 6 will be assigned to Petersburg Training School. Other retardates and those patients with brain damage will be assigned to Central State Hospital.

Cold and the Common Cold

Does cold have an effect on the common cold?

A new study suggests that it doesn't, at least under normally encountered conditions. The Medical News section of the Journal of the American Medical Association (Feb. 13) reports the findings of three National Institutes of Health investigators who subjected 43 volunteers to a variety of cold-catching conditions.

Some persons spent 1½ to 2½ hours in a room whose temperature hovered around 40 degrees fahrenheit—the sort of short-term chilling commonly believed to bring on a cold. Others were placed in cool baths which lowered their body temperature approximately two degrees. This was designed to duplicate the lowered body temperatures associated with some viral and bacterial infections. Despite their exposure to cold temperatures, these volunteers didn't catch significantly more colds than a control group who stayed dry and warm.

When some persons were inoculated with cold-causing rhinoviruses, the illness rate was slightly higher among cold-exposed volunteers. But more controls than cold-exposed persons had fever.

Effects of cold temperature during illness also was studied. Three persons were immersed in cold baths for two to four hours at the height of their cold. The course of their illnesses didn't seem to differ from that of other persons under study.

A final study was of exposure to cold during recovery; that is, while viruses continued to be present in nasal areas, but the persons appeared to be well. For this, 13 volunteers went into the cold room or cold bath. One cold-exposed man had a one-day relapse in his recovery from a cold. Further studies showed an increase in viruses shed by one cold-exposed volunteer, but also an increase in those shed by one of the controls.

The investigators are R. G. Douglas, Jr., M.D., and R. B. Couch, M.D., now both of Baylor University College of Medicine, and K. M. Lindgren, M.D., who continues his work at NIH.

Diagnostic Laboratory Medicine . . . .

The Use of a Computer in the Hospital Laboratory

The purpose of this article is to point out the need for modern data processing technics in the hospital laboratory. The impact of automation has given great impetus to the exploration and application of the powerful new technology of electronic data processing to medicine. Physicians have fallen far behind those who are using already this new tool in their daily work. In addition to this purpose, a sample system will be described, as well as ways in which this system can be expanded for further use.

In the past 25 years, hospital laboratories have progressed from the use of manual testing methods to the use of such instruments as the Cotlove Titrator, Coulter Counter and now multichannel analyzers. Here, at the Medical College of Virginia, a technologist can run a battery of 12 chemical tests on 25 different patients in an hour's time, and yet the amount of time required to read, check and transmit this data far exceeds the time it takes for each test to be run. The laboratory has reached the point where data processing is the limiting factor in handling its procedures.

Numerous operational problems plague today's hospital laboratory and demand improved information flow. The workload has increased yearly at a rate of 10 to 15 per cent for the past 15 years, and this increase is expected to become even greater. Coupled with this problem, there is a continual shortage of registered medical technologists. There are roughly 35,000 registered technologists distributed throughout the 7,000 hospital laboratories in this country, and these individuals spend an estimated 30% of their time doing clerical work.

Operating costs of hospital laboratories are rising. Payrolls, which constitute roughly 50 per cent of the operating costs, have increased enormously in the past 10 years. Despite quality control programs, frequent clerical transcriptions creates many errors in present data handling systems. Also as a result of present laboratory management, there is frequently a lack of detailed data on operations within the laboratory. In addition, it is extremely difficult to retrieve useful patient information by manual methods.

Electronic data processing systems—i.e. computers—offer many advantages which can help alleviate a number of these problems. The principal categories are:

1. Better utilization of laboratory personnel and equipment.
2. More rapid and informative transmission of laboratory data.
3. Reduction in errors created by manual systems.

Better utilization of resources would reduce the amount of "Scut Work" the medical technologist must do and free her for more skilled procedures. Laboratory planning would be improved and both financial planning and cost accounting would be simplified. *Improved data transmission* would permit faster reporting of results, day to day summaries of all results on each patient printed on a single sheet, and complete storage and retrieval of all laboratory information. This latter feature would simplify reviewing prior laboratory information on any patient readmitted to the hospital, and would offer unlimited opportunity to medical education and the researcher. *Reduction in errors* would be achieved. At the same time this would permit regular reviews of all results to ascertain reasonability and improve quality control. The handwritten hieroglyphics of the technologist or the clerk would be eliminated and positive identification of specimens would be maintained from the time of collection until

the final report is added to the patient's chart. In the latest systems, manual transcription is done away with entirely by direct, on-line collection of laboratory data through analog to digital converters.

A model data processing system must include certain basic units. At the nursing station a card reading device and a printing device are required. The nurse or physician uses a pre-scored requisition card for any test to be performed. Opposite the test or tests, the pre-scored section is merely punched out. Then the requisition card after being identified with the patient and specimen is fed into the card reading device. The printing device is used to print periodic ward reports on all tests run, and to print patient summaries at the end of each day. In the laboratory a card punching device and a card reading device are also required. Following reception of the punched and identified requisition cards, the central computer generates identified test result cards through the laboratory's card punching device. After completion of the tests, the off-line results are punched manually into the test cards. The test cards with results are then fed into the card reading device and the information is transmitted to the central computer. In the case of on-line tests, results are collected directly from the instrument performing the test and transmitted automatically to the central computer. Now at the central data processing room, the computer is connected on-line, by telephone wires, to the nursing station and the laboratory. All data are received and transmitted through this computer. Other units used in the central data processing room include an inquiry console and disc files. The inquiry console is used to retrieve any data stored in the disc files, which are the "memory" of the computer. Printing, card reading, and card punching devices, similar to the units at the nursing station and the laboratory, may be used in the central data processing room. Information such as laboratory work reports, daily laboratory reports, specimen collection schedules, and administrative reports may be collected from the central printing device. In step-by-step fashion, the preceding system would operate in the following manner:

1. Pre-scored requisition cards are identified with patient and specimen at nursing station and introduced into card reading device.
2. Requisition information is transmitted to computer, which generates test result cards.
3. Test result cards are collected by technologist at appropriate laboratory and identified specimens are received for respective tests.
4. Off-line results are punched manually into cards after completion of procedures, following which cards with results are introduced by way of card reading device to computer.
5. On-line results are transmitted automatically to computer by way of analog to digital converters.
6. All data received by computer are then used to print out patient summaries, ward reports, laboratory reports, and any other necessary information such as quality control reports, cost reports, and "unreasonable" results.
7. Compiled information is stored in disc files for future medical and research use.

There are many ways in which such a system can be utilized more completely. Disc files in the central processing room can store autopsy and surgical pathology diagnoses. In this way coded information is more accessible for medical education purposes. Several smaller laboratories might share a computer with other departments in the same hospital, and different modules may be added to the system within the laboratory as newer, automated equipment is acquired.

In summary, this article points out the need for modern data processing technics in the hospital laboratory. A sample system,

based on the use of an electronic digital computer, is presented. Ways in which this system can be modified and expanded are suggested. Systems similar to the one described are now in use at the University of Alabama Medical Center, the University of Missouri Medical Center, and the Youngstown Hospital Association (Ohio) among others.

References

1. Rappoport, A. E., Constandse, W. J., Seligson, D. and Greanias, E. C.: Symposium on Computer-Assisted Pathology. College of American Pathologists, Miami Beach, Florida, October 19, 1964.
2. Simonson, L. O.: Computerized Labs Take on New Meaning. Lab and Research, December, 1964, pp. 1196-1199.
3. Lindberg, D. A. B.: Electronic Processing and Transmission of Clinical Laboratory Data. (Reprinted through courtesy of I.B.M. Corp.)
4. Matlin, E.: Fully Automated Blood Testing. C.M.D. June, 1965, pp. 491-494.
5. Paxton, H. T.: The Computer—A Report on How It's Affecting the Hospital Physician. House Physician, September, 1966, pp. 35-51.

Sam Vance, III, M.D.

Division of Clinical Pathology
Medical College of Virginia
Richmond, Virginia

Evaluates Contraceptive Methods

"The population explosion and the frightening magnitude and complexity of the problems it is creating continue to be of worldwide concern," says an editorial in the February 27th Journal of the American Medical Association. Within little more than a decade, two highly effective methods of conception control have been developed: oral contraceptives, and more recently, intrauterine contraceptive devices (IUDs). Both types of conception control are evaluated in statements by the AMA Committee on Human Reproduction and the AMA Council on Drugs.

"Because of their convenience and proven effectiveness, the oral contraceptives have been widely accepted by both physicians and patients, and it is estimated that approximately seven million women (five million in the United States) are now using them. However, it has also been recognized that much information is lacking about the actions of these preparations."

Study groups operating under auspices of the World Health Organization and the U.S. Food and Drug Administration have published reports that present a balanced opinion on oral contraceptives.

"These sharp differences of opinion should be welcomed, since they help to stimulate further research directed toward obtaining answers to these problems. In the meantime, an uneasy responsibility rests with the practicing physician who must properly guide his patients in the use of these preparations without engendering undue alarm, and yet be alert to the possibility that some unusual response may signal a serious adverse reaction."

In contrast to the oral contraceptives which prevent pregnancy by a complex hormonal action, the action of the IUDs seems to be a simple mechanical phenomenon. Side effects of the IUDs are generally due to the problems posed by placing a foreign body in the uterus.

"The IUDs and the oral contraceptives represent another of man's successful efforts toward intelligent control of his environment. Undoubtedly these methods presage the development of even better methods of fertility control.

"In the meantime, to extend their usefulness, convenience, and safety, more clinical investigations . . . are needed to resolve the major problems that exist. Any delay should be avoided, and the physician should be repeatedly urged to report the nature of all adverse reactions he might see."

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

The Medicolegal Implications of the New Implied Consent Law and the "Driving Under the Influence" Statute in Virginia

The Implied Consent Law was first enacted in Virginia in 1962, and from this original legislation many medicolegal problems arose. For this reason, among others, the statute was amended in 1964, and to a much lesser extent in 1966. The revised law is now embodied in § 18.1-55.1 of the Virginia Code.

Permission Slip Not Required

One change that has medicolegal implications is that under the 1964 revision no permission slip, signed by the accused, is necessary before a physician or other qualified person can draw blood. All that is required is the verbal permission of the accused and "the extending of the latter's arm for the needle". Although the foregoing was assumed under the old statute, it has a statutory basis in the 1964 revision. Thus, in the absence of signed permission, the physician is protected from such charges as assault and battery, and invasion of privacy when he draws blood from the accused. However, it should also be noted that the absence of signed permission is not legal grounds for a physician or other qualified person to refuse to draw the blood sample (Rowland vs. City of Richmond, 205 Va. 187).

Accused No Longer Has Two Hours to Request Test

Another change in the 1964 revision relates to the fact that, unlike the former provision, the defendant no longer has two hours after his arrest in which to make a final decision as to whether or not he will submit to a blood test. If the accused person executes the form, Declaration of Refusal to Permit Taking of Blood Sample, or if he refuses to execute that form after having refused to permit the taking of blood for such test, and then under either of these circumstances changes his mind and requests a blood test, no blood sample shall be taken. A physician or other qualified personnel is obligated to refuse to draw the blood sample, although two hours may not have elapsed since the accused was arrested.

Soap and Water to Sterilize Skin

A third 1964 amendment directs that the person drawing blood must use soap and water to cleanse the skin. The 1962 statute directed only that some substance other than alcohol, or a substance known not to influence the determination, should be used. The 1964 amendment is specific in directing that soap and water be used.

Disposition of Samples to Arresting Officer

So far as the disposition of the sample is concerned, there is a significant difference between the original and revised statute. The original statute provided for two blood samples—one for the state and the other for the accused. Under that provision, the physician or qualified person drawing the blood was directed to give one sample to the arresting officer and the other to the accused. The 1964 revision provided that the person drawing the blood gives both samples to the arresting officer, who in turn disposes of the accused's sample according to the latter's wishes as to examination by a private laboratory approved by the State Health Com-

missioner, within the 72 hour time limit imposed by the statutes.

Persons Qualified to Take Blood Sample

The 1964 statute also broadens the classification of persons qualified to draw blood samples. Formerly only physicians, registered nurses, and graduate laboratory technicians could draw blood. A new group—technicians or nurses "designated by order of court of record acting upon the recommendation by a licensed physician"—can now draw the blood samples. This revision was largely made to protect hospitals from medicolegal problems in that many times the qualified people designated by the old statute were not available to draw blood samples. The new group is much more inclusive in that it includes those people who draw blood samples under routine circumstances in a hospital.

Only Substantial Compliance Required

Concerning substantive matters, the significant difference between the 1962 and 1964 versions is the elimination from the new statute of the provision, formerly Section 18.1-55 (f), which stated that if the Commonwealth failed to comply with any of the provisions of the statute, this failure should be deemed a reasonable doubt of the accused's guilt. The 1964 revision has no such language. In part, in § 18.1-55 (s) some of the most important medicolegal content of the new statute is found. In this paragraph we find the declaration of law that "substantial compliance with the provisions of the statute is sufficient, and that a failure to comply with one or more steps outlined in the statute is not, in itself, grounds for finding an accused not guilty, but shall go to the weight of the evidence. However, a provision is made that an accused is free to introduce evidence on his own behalf which may establish, if such be the case, that his rights have been invaded and consequently prejudiced by non-compliance with the statutory procedure. In essence, the 1964 revision means that no longer does the Commonwealth have to prove that all provisions of the statute were strictly adhered to, and in fact it becomes the burden of the defense to prove that the provisions of the statute were not carried out, and that the failure to do so actually prejudiced the rights of the accused. No longer can the accused be found "not guilty" entirely on the basis that one or more of the procedural provisions of the statute was not strictly adhered to.

When Person Withdrawing Blood Must Testify

Related to the above change, the Attorney General of Virginia was asked to render an opinion concerning the necessity of having the doctor or other qualified person who withdrew the blood sample present in court to establish compliance with the statutory procedure. The Attorney General expressed the view that their presence would not be necessary. However, he pointed out that if the accused presented evidence tending to establish that there had been a failure to comply with a certain procedure, and as a result his rights had been prejudiced, then it would be necessary to call as a witness the doctor or other qualified person who drew the blood.

Impaired Driving

The driving while impaired law was enacted in 1966 as a new section under the general statute concerned with driving a motor vehicle while intoxicated. Its chief medicolegal significance lies in the fact that it is intimately related to the Implied Consent Law. This relationship rests on the fact that for a person to be charged with driving while impaired, the blood alcohol level of that person must be as much as 0.10% but less than 0.15% by weight. Because of the importance of the blood alcohol level, all of the medical and legal responsibilities of the medical personnel drawing the blood must be carried out according to the provisions of

§ 18.1-55.1 of the Virginia Statute (Implied Consent Law). The driving under the influence statute goes on to say that "a person's ability to operate or drive a vehicle shall be deemed to be impaired by the presence of alcohol in his blood within the meaning of this section (0.10-0.15%) when such person has so indulged in alcoholic intoxicants as to lack the clearness of intellect and control of himself which he would otherwise possess".

No Presumption Relative to Charge of Driving Under Influence

The statute more specifically states that "the simple fact that the accused has a blood alcohol level in the range included under the driving while impaired statute shall not give rise to presumptive evidence that the accused was or was not under the influence of alcoholic intoxication". Under this section of the statute it is stated that such facts may be considered with other competent evidence in determining the guilt or innocence of the accused. Consequently, the statute has further medicolegal significance in that the physician, or other medical personnel, who draws the blood, because he is one of the first people to see an accused, many have to testify in court as to the person's mental and physical condition at the time when the blood was drawn. As mentioned before, such testimony is just as important in determining guilt or innocence as is the blood alcohol level.

Conclusion

In this paper an attempt has been made to point out to the physician the major medicolegal implications related to the revised Implied Consent Statute and the driving while impaired provision. It is generally accepted that such revisions have made these statutes more effective instruments for achieving public safety on the highway, without endangering personal liberties to any great extent. Surely other revisions will become necessary in the future, but these revisions have been an important step in the direction of obtaining a more workable statute.

Monthly Report of Bureau of Communicable Disease Control

	Feb. 1967	Feb. 1966	Jan.-Feb. 1967	Jan.-Feb. 1966
Brucellosis	4	1	8	2
Diphtheria	0	0	0	0
Hepatitis	59	70	107	117
Meningitis (Aseptic)	1	0	2	0
Meningococcal Infections	7	10	12	14
Poliomyelitis	0	0	0	0
Rocky Mt. Spotted Fever	0	0	0	1
Rubella	41	62	59	85
Rubeola	158	201	357	322
Streptococcal Infections	1562	1184	3139	2163
Tularemia	0	0	0	2
Typhoid Fever	1	4	1	4
Rabies (in animals)	16	38	33	59
Veneral Diseases	904	801	1740	1584
Syphilis	170	121	373	279
Gonorrhea	734	680	1366	1299
Other	0	0	0	6

The Medical Society of Virginia . . . .

Minutes of Council

A meeting of the Council of The Medical Society of Virginia was called to order by Dr. K. K. Wallace, President, at 10:00 A.M. on Saturday, February 11, 1967, at Society headquarters. Attending were: Dr. Thomas W. Murrell, Jr., Dr. Alexander McCausland, Dr. Hugh G. Stokes, Dr. Mack I. Shanholtz, Dr. Harry J. Warthen, Dr. W. Callier Salley, Dr. F. Ashton Carmines, Dr. William S. Hotchkiss, Dr. William R. Hill, Dr. William Grossmann, Dr. W. Nash Thompson, Dr. Harry B. Stone, Jr., Dr. Dennis P. McCarty, Dr. W. D. Liddle, Dr. W. W. Walton and Dr. Carl P. Parker, Jr. Also attending were: Dr. F. H. McGovern, 2nd Vice-President; Dr. James M. Moss, 3rd Vice-President; Dr. Thomas S. Edwards, Vice-Speaker of the House; Dr. Hiram W. Davis, Commissioner of Mental Hygiene and Hospitals; Dr. W. Linwood Ball and Dr. Allen Barker, Delegates to the AMA; Dr. Hunter H. McGuire, Jr., representing the Dean of the Medical College of Virginia; Dr. Charles L. Crockett, Jr., representing the Dean, University of Virginia School of Medicine; and Mr. Richard Nelson, Field Service Representative, American Medical Association.

Dr. Wallace opened the meeting by recognizing those members of Council attending their first formal session.

Dr. Moss then introduced Dr. George J. Lawrence, Jr., member of the Board of the American Medical Political Action Committee, Flushing, New York. Dr. Lawrence, on behalf of AMPAC, thanked the physicians of Virginia for the excellent support they have given both AMPAC and VaMPAC. He pointed to the excellent record medical political action committees had compiled during the last general elections and indicated that approximately 80% of those Congressional candidates supported had been successful. He stressed the fact that both Democrats and Republicans had been supported and that the medical political action movement was indeed bipartisan in every respect.

Dr. Lawrence went on to say that AMPAC had enjoyed exceptional growth since its organization in 1962. It presently shows a 60% growth since 1964 and over 100% since 1962. He cited the "number one" objective as an even greater membership increase—particularly during this so-called "off election" year. In order to achieve this goal, it is necessary for VaMPAC to receive every possible cooperation at the local level. Local society meetings should feature the medical political action movement whenever possible. Dr. Lawrence stated that the movement is also looking to the future by seeking a continual flow of new blood on the governing boards of the various state committees. He expressed the hope that the very best men and women would be sought for these positions.

Council then turned its attention to the problem of collecting dues for the Woman's Auxiliary to The Medical Society of Virginia. Dr. Thompson explained that Council's action on November 6 was the result of a request from the President of the Auxiliary. It was learned that the Woman's Auxiliary to the American Medical Association had urged its constituent auxiliaries to make every effort to have their dues included on state society statements. Dr. Thompson went on to say that the Society had proceeded to follow through on the request and Auxiliary dues had been included on the 1967 statements. Unfortunately, considerable opposition had developed and it was felt necessary to take another look at the over-all situation.

Brought out was the fact that some local auxiliaries felt that the new method of collecting state and national auxiliary dues had caused an almost impossible bookkeeping problem. Others reported duplication of payments and expressed the feeling that dues were being paid for some physicians' wives who were actually ineligible.

When it was learned that the Auxiliary Board would not meet until March, a motion was offered by Dr. Thompson to rescind the action taken on November 6. The motion was seconded.

There followed considerable discussion concerning the advisability of tabling the motion until the Auxiliary Board has had an opportunity to act. The thought was expressed that since the Board had never officially acted on the request, the action might well be contrary to its By-laws.

Council was advised that Mrs. Landes, President of the Auxiliary, was expected later in the morning. A motion was then introduced by Dr. Salley to defer further consideration of Dr. Thompson's motion to rescind until after Mrs. Landes had an opportunity to address Council. *The motion was seconded and adopted.*

Next to be considered were the Rules of Procedure for conducting the business of the House of Delegates. The Speaker likes to review these rules each year and receive suggestions for possible changes. Dr. Salley called for suggestions and asked if the present three Reference Committees are considered sufficient. It was brought out that one Committee had at least 19 witnesses during the Williamsburg meeting. Some objection was voiced to having all three Committees meet at the same time—since it posed quite a problem for those members interested in two or more matters under consideration. It was agreed that starting times for the three Committees could be staggered, but that this might, in itself, cause some confusion.

The question was raised as to how the distribution of Committee reports could be expedited, and Dr. Salley stated that a great deal of improvement in this regard had been made at Williamsburg. Since the main problem seems to be one of getting the various reports in the hands of Reference Committee members well before the Committees convene, it was determined that the staff would do everything possible to keep Delegates advised as to where and when the material could be obtained.

Dr. Wallace then introduced General Norman E. Peatfield, Executive Director, and Colonel William H. Hayes, Contracting Agent, of the Office for Dependents' Medical Care (now being called Office for Civilian Health and Medical Program of the Uniformed Services. General Peatfield and Colonel Hayes had flown in from Denver in order to meet with Council.

It was recalled that on October 2 Council had declared that the usual and customary approach should be used in connection with the Dependents' Medical Care Program. It was determined, at that time, that no fee schedule would be approved when the 1966 Contract expired. As a result of this action, the Program in Virginia has been operating under an extension of that Contract. It was brought out that the House of Delegates had, in fact, ratified Council's decision.

General Peatfield stated that the Program had, for all practical purposes, been operating under the usual and customary concept for a long time. He indicated that some type of fee guideline is required—and, in fact, necessary if the Program is to operate efficiently. The billing process was explained and it was pointed out that maximum fee schedules are not published for general distribution.

General Peatfield, after again stressing the necessity of some type of fee guidelines, stated that a medical society does have direct influence on the Program when it serves as the contracting agent. The society then has much to say concerning what fee levels are actually established. Pointed out was the fact that Virginia has been receiving in excess of one million dollars a year under the Program and that this will probably increase to over two million dollars as a result of the many new benefits and expanded coverage.

In answer to a question concerning maximum fees, General Peatfield stated that the Program would definitely pay for services rendered because of complications. All that is necessary is for the physician to report any unusual and complicated developments causing special or prolonged treatment.

Direct billing under the Dependents' Medical Care Program was discussed, and it was learned that such is possible under certain portions of the Program. General Peatfield, however, made it quite clear that he did not recommend it.

A question was raised concerning what would happen should The Medical Society of Virginia decide not to renew the Contract, and General Peatfield indicated that Blue Shield might be requested to assume the role of contracting agent. He did not rule out the possibility of a commercial insurance company being considered. It was brought out that in ten states the contracting agents are other than the state medical societies.

Dr. Salley expressed the thought that the Program could best function with The Medical Society of Virginia continuing to serve as contracting agent and with a special Review Committee functioning as it has in the past. General Peatfield agreed but stated again that some fee guideline is absolutely necessary and cannot be eliminated entirely.

The General and Colonel Hayes thanked the Council for permitting them to discuss the over-all problem and expressed the hope that the Society would continue as the contracting agent.

Dr. Wallace announced that Mrs. Landes had arrived and invited her to discuss the dues situation. Mrs. Landes expressed regret that a problem had arisen and agreed that the new method of collecting dues had possibly been implemented too quickly. As a result, the component auxiliaries had not had an opportunity to make the necessary adjustments. It was pointed out that any such procedure must be statewide in application and cannot be broken down by localities. Mrs. Landes stated that the matter would most certainly be discussed at length when the Auxiliary Board meets in Richmond in March.

Dr. Grossmann then moved that the matter be

tabled until the Auxiliary has had an opportunity to consider the problem and take such action as it believes advisable. The motion was seconded and adopted.

Dr. John A. Martin, Chairman of a Special Committee on Revision of the Constitution and By-laws, was introduced. Dr. Martin stated that his Committee had met but felt the need of more direction by Council. He explained that a complete revision of the By-laws is a job of great magnitude and would undoubtedly require some funds for possible legal advice, etc. He indicated further that the Committee is somewhat inclined to recommend elimination of the Constitution and operate simply within a framework of By-laws. Although this represents a major departure from the past, there seems to be a trend in this direction where professional associations are concerned. Also, the matter of districting is a big and difficult problem, and the feeling exists in some areas that "Medical Districts" should replace the present Congressional Districts. The need of a possible strengthening of those sections having to do with discipline and ethics was also cited. Above all, Dr. Martin wanted to make sure that the Special Committee had Council's support.

During the ensuing discussion, the thought was expressed that doubt does exist as to what the majority of Council would really like. Few were convinced that a complete revision of the By-laws is indicated. Dr. Murrell believed that the Committee should take a long look at the situation and then bring Council such recommendations as it believes best.

Dr. McCausland proposed that the Committee consider holding a series of hearings and that the membership be invited to attend and offer suggestions. A motion was then introduced which would have the Special Committee on Revision of the Constitution and By-laws hold hearings at pre-established and publicized times and places and that these hearings be conducted with prepared agendas. Following the hearings, the Committee would bring to Council such recommendations as it believes advisable. *The motion was seconded and adopted.*

Council then returned to its consideration of the Dependents' Medical Care Contract. Dr. Grossmann moved that The Medical Society of Virginia seek to negotiate a contract based on the usual and customary approach, recognizing the use of administrative fee guidelines under the supervision of the Society's Committee on Dependents' Medical Care. The motion also provided that these guidelines be reviewed periodically by the Committee. The motion was seconded.

Dr. McCausland moved to amend the motion by having the Contract provide for direct billing on a voluntary basis. The amendment was seconded.

A proposed amendment to Dr. McCausland's amendment which would have the Contract encourage direct billing was seconded and subsequently lost. The amendment of Dr. McCausland was then adopted.

Dr. Grossmann's motion was then adopted as amended.

Council next heard a report on a joint meeting to be held on March 12 between representatives of The Medical Society of Virginia and our two medical schools. The meeting will be held at Society headquarters and will be a one-day affair. The Society will be represented by ten members while each medical school will have five delegates on hand. Both Deans and the Society's representatives have been contacted for agenda suggestions. The response has been good, and a slate of topics will be ready for discussion.

A motion by Dr. Thompson that the report be accepted with thanks was seconded and carried.

The annual luncheon held each year for Virginia's Congressional delegation was the next topic of discussion. It was learned that Tuesday, May 9, had been selected and that Congressman Broyhill, at the request of Dr. Palmer, had reserved the Speaker's Dining Room in the Capital for the occasion. The luncheon will begin at 12:00 Noon, E.D.T.

A question was raised as to whether members of the Committee on National Legislation should again plan a visit to AMA's Washington headquarters on the morning of May 9. A survey last year had revealed some difference of opinion on the value of such a visit. The thought was expressed that the determining factor should be a report from Dr. Lester on what could be discussed to advantage should such a visit be planned. Mr. Nelson indicated that he would contact Dr. Lester and obtain such a report.

Council then turned its attention to a resolution from the Tazewell County Medical Society which would have any contacts—or medical advisors—for Virginia's Congressional delegation appointed by the Virginia Medical Political Action Committee. Such advisors would not have Councilor status or powers in The Medical Society of Virginia. The resolution stated that the purposes of the Society, as set forth in the Constitution, do not include political activities.

The thought was expressed that the present system

is excellent and no conflict exists with any Federal laws regulating political activity. It was pointed out that a professional association has a right and obligation to maintain close contact with representatives in the Congress and that this important task would seem properly to belong to the Councilors. It was further pointed out that VaMPAC is essentially concerned with one main objective—the election of acceptable candidates. Also mentioned was the fact that The Medical Society of Virginia is the one professional association in Virginia representing a majority of the State's physicians.

A motion by Dr. McCarty to table the resolution was seconded and adopted.

Council's attention was called to a resolution of appreciation composed in honor of Dr. Vincent W. Archer, who recently retired after having served with distinction for many years as a member of the AMA House of Delegates. A handsome Certificate of Appreciation has also been prepared, and will be presented at an appropriate time. It was moved that the resolution be adopted and the formal presentation be left to the discretion of the President. *The motion was seconded and adopted.*

Consideration was then given a resolution from the Medical Advisory Committee of the Virginia League for Planned Parenthood requesting that the Society appoint a special committee to study existing State laws having to do with abortions and make such recommendations as it might feel necessary concerning legislative changes. Dr. Shanholtz explained that Virginia law only permitted abortion when necessary to save a life. There seems to exist a strong feeling among certain groups that the law should be broader—permitting abortions where rape, certain mental health conditions, incest, etc., are involved. Dr. Shanholtz expressed the opinion that the matter will quite likely be given some consideration by the General Assembly in 1968, and expressed the hope that The Medical Society of Virginia would provide sound leadership in reviewing the problem.

During the ensuing discussion, it was mentioned that there would be no objection to taking a good look at the present law as long as it was understood that a study committee might very well recommend no change whatever. *It was then moved by Dr. Grosssmann that the matter be referred to the Society's Committee on Maternal Health with the request that it make an immediate study of the resolution concerned and report its recommendations to Council as soon as possible. The motion was seconded and adopted.*

The method used by the Society in selecting an Alternate Delegate to attend meetings of the AMA House of Delegates when the need arises was discussed at length. Dr. Salley stated that the By-laws do not specify how an Alternate should be accredited. He went on to say that it would seem to be to the Society's advantage to be represented by the senior Alternate rather than one with less experience.

A motion was then offered which would have the most senior Alternate Delegate available be accredited when a Delegate cannot attend the meeting of the House of Delegates of the AMA. The motion was seconded.

Dr. Grossmann then offered an amendment which would also refer the matter to the Special Committee on Revision of Constitution and By-laws for such action as might be necessary. *The amendment was accepted and the motion adopted.*

Dr. Wallace reported that every effort was being made to make sure that the Society operated within its budget. Unfortunately, some unforeseen expenses had arisen and were causing some concern. It was learned that the Society's Special Committee on Pharmacy was working very hard to solve those problems connected with dispensing of drugs by physicians and also the confused situation surrounding the physicians' responsibility with reference to the 3% sales tax on drugs. The Committee must necessarily obtain legal advice and guidance—especially if its objectives are to be accomplished before the General Assembly meets next January.

Dr. Murrell told of his conversations with Mr. Miller, who, with Mr. Duval, is an attorney for The Medical Society of Virginia. It was his impression that since the Society's need for legal assistance has been considerable, our attorneys would be amenable to discontinuing the retainer arrangement and working instead on a straight hourly basis.

Dr. Wallace cited the need for the Society to exercise fiscal responsibility and again stressed the fact that every effort was being made to operate within the framework of its budget. He mentioned that the Society was currently contributing close to $30,000 a year to various organizations and projects. If some alternative is not found, it is possible further consideration must be given an increase in dues. Everyone agreed, however, that the really worthwhile projects of the Society must be supported and not allowed to suffer for budgetary reasons.

Dr. Thompson reported a recent action of the Patrick-Henry Medical Society having to do with a need for additional general hospital beds in Virginia. The Medical Society of Virginia was requested

to adopt a resolution urging that State funds be made available annually for the renovation and expansion of existing hospital facilities and to supplement Hill-Burton funds for the erection of new facilities.

Dr. Shanholtz indicated that Virginia's facilities would quite likely have new loads thrust upon them when Title XIX becomes a reality.

Dr. Thompson then introduced the following motion which was seconded and adopted:

> WHEREAS: In 1964 Mr. Robert Ham, Director of the Bureau of Hospital and Nursing Facilities of the Virginia Department of Health, estimated a deficit of 5,500 general hospital beds in the State of Virginia at that time. Very little relief has been obtained in the past two years. Hill-Burton funds have been less than 1/3 that needed on a 55%-45% basis, to supply applications for hospitals from various areas of the state; and
>
> WHEREAS: The urgent need for general hospital beds is made manifest by the large number of patients seen housed in the halls of most of the hospitals in Virginia; be it therefore
>
> RESOLVED: That The Medical Society of Virginia request the State Commissioner of Health to include in his budget an annual special appropriation of sufficient funds for the purpose of renovating and expanding existing hospital facilities and supplementing Hill-Burton funds in erecting new hospital facilities in the State of Virginia; and be it further
>
> RESOLVED: That a copy of this resolution be sent to Governor Godwin, to each State Senator and member of the House of Representatives for the State of Virginia, and to the State Health Commissioner.

Dr. Walton reported that a special commission, appointed by the Governor, is looking into the nursing situation in Virginia—particularly, the shortage of nursing personnel. It was his suggestion that The Medical Society of Virginia appoint a special committee of its own to cooperate with the commission and make such suggestions as it might deem advisable. He felt that if the community colleges do become concerned with some form of nurse education, then the medical profession should certainly make known its views.

A suggestion had been made that should such a committee be appointed by the Society it should include members with a thorough knowledge of the so-called "Prangley Plan" for training certified bedside nurses. This Plan received the endorsement of the Society's House of Delegates last November, and was referred to the Legislative Committee for necessary action. Mention was made of the opposition to the "Prangley Plan" by the Virginia State Nurses Association and its lack of support by the Virginia Hospital Association.

A motion was then offered by Dr. Walton calling for the appointment of a special committee which would cooperate with the Governor's commission in every possible manner—taking into consideration the "Prangley Plan" and any other matters bearing on the shortage of nurses in Virginia. The motion was seconded.

Attention was called to the fact that the Society has a Committee on Nursing which works closely with the State Board of Nurse Examiners and the Virginia State Nurses Association. Members of the Committee are all knowledgable where the "Prangley Plan" is concerned and most of them have looked upon it with favor. There was some feeling that two Committees might well result in overlap and duplication of effort.

A motion by Dr. Hotchkiss to table the matter was seconded and carried.

Dr. Wallace then announced the appointment of Dr. Walton to the Society's Committee on Nursing.

Dr. Salley called attention to the fact that a resolution adopted by the Tazewell County Medical Society on the creation of Councilor Districts had not been considered. Dr. Wallace explained that Dr. Martin's Special Committee on Revision of the Constitution and By-laws was already studying the suggestions included in the resolution and that further action did not seem necessary.

Dr. Salley then requested that Dr. Walton advise the Tazewell County Medical Society that it was not within the power of Council to comply with its suggestions at this time.

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD, *Secretary*

APPROVED: K. K. WALLACE, M.D., *President*

The President's Page . . . .

GENERAL PEATFIELD and Colonel Hayes, representing Dependents' Medical Care, appeared before your Council on February 11th. They are excellent gentlemen and our meeting was quite amicable. We hope that our difficulties can be compromised satisfactorily. We want it clearly understood, however, that the individual doctor has the privilege of billing the patient direct if he so desires.

While on the subject of medical economics, there are persistent complaints arising throughout the State regarding the fee schedule applying to Veterans' Care. These have not been reviewed since shortly after World War II. Your Council would like to know your reaction on this subject. Renegotiation can only occur if there is sufficient ground-swell to demand some adjustments and changes.

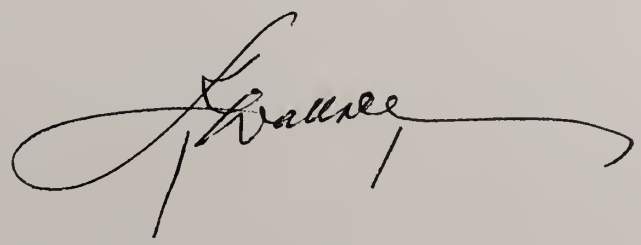
We are sincerely appalled at the lack of interest now being shown regarding VaMPAC. Enthusiasm has largely fallen on its face. True enough there are no pressing problems at the moment. However, shortly we will be in the fray again and support now will obviate the necessity for a crash program later. One proposal has been made that VaMPAC take over the time-honored function of the National Legislative Committee regarding the Congressional luncheon and contact each spring. The roll of VaMPAC paid membership will have to increase many fold and become a truly representative group before Council entertains divesting these prerogatives from present effective status.

Overheard at the recent meeting of Council:

Mr. Howard. "Dr. Salley, I'd like to introduce our new Assistant Secretary, Mr. Moore."

Dr. Salley. "Mr. Moore, I am glad to know you. (Then in his best needling manner), if you don't do a good job, we will fire you and I'll take your place!"

Mr. Howard, prayerfully, "Mr. Moore, PLEASE do a good job!"



K. K. WALLACE, M.D.
President, The Medical Society of Virginia

Editorial . . . .

Disease, War and History

Our culture therefore must not omit arming the man, let him hear in season that he is born into the state of war.—Emerson.

DURING MAN'S ENTIRE EXISTENCE he has struggled not only to adapt himself to his physical environment but he also has had to contend with his two most powerful opponents, disease and war.

There is perhaps no more effective way of emphasizing the significance of disease than by pointing out how it has affected the course of history. One is well within the mark when he undertakes to show that factors of health or its opposite, disease, have played as important a role in shaping the destiny of mankind—the course of history, if you please—as has war or the machinations thereof.

In earlier centuries the weakness of unscientific medicine profoundly affected political economic and social world trends. Disease has played both hero and villain and has affected both comedy and tragedy in the drama of the human race. The failure to control disease has often governed the course of empires. Thus, according to authenticated history, schistosomiasis had so debilitated Egypt by the 13th century B.C. as to permit the Jewish race to escape its vassalage and to make later its great independent contribution to thought and morals. Plague hurried the dissolution of the great culture of ancient Greece and the full benefit of Greek philosophy and knowledge were consequently lost to posterity for a thousand years. Pericles (circa 495-429 B.C.) and the golden age of Athens succumbed not to man but to the plague which, in a period of two years, destroyed more than one third of Athens' population of 300,000.

From Galen (130-200 A.D.) who is said to have provided the final medical synthesis of antiquity and the effective medical standard for 13 centuries, i.e., until the dawn of the Renaissance, the scientific progress of medicine remained virtually at a standstill. Mediaeval medicine has been summed up as a corrupted form of Galenism.

The dissolution of the Roman Empire (circa 395 A.D.) was occasioned not only by the destructive forces of war and internal weakness, but was unquestionably hastened by the great plague which, in the third century, raged for a period of 15 years and reduced the city population of the Empire by one half. Plague, smallpox, typhus fever, typhoid fever,

cholera and malaria have struck indiscriminately at country after country, at pagan and Christian, kings and beggars, masters and serfs alike. Pestilence frustrated the efforts of the crusaders to spread the Christian creed along the Mediterranean and allotted to Christendom the thorny crown of disease and infection instead of the Holy Sepulcher.

The medical profession has come a long way indeed and appears to be winning in its struggle against disease. There are some who would contend that there are no incurable diseases but only some for which man has not yet found the cure. Today the armamentarium of the physician is better than it has ever been. It is vastly superior to that of even a few years ago, but it is still by no means all that we would like.

The hope is frequently expressed that in the not distant future man's evolution will not be only a matter of physical adaptation but also a matter of spiritual progress—an ideologic freedom. The history of human progress is said to be a history of ideas and an expression of reaction relative thereto. Mankind's reaction relative to the idea of spiritual progress and ideologic freedom has not been encouraging and any indication that such change is in the offing is nebulous, to say the least. History certainly provides no basis for optimism in this regard. Those who can find in history or in the future's "crystal ball" any basis for a hope and belief that human behavior is about to change radically must be endowed with some charismatic faculty.

Thomas Carlyle (1795-1881) at one time stygmatized history as "a distillation of rumour," but in his famous essay on history he asked: "What is all knowledge but recorded experience and a product of history?" If he had cared to do so, he might have elaborated upon this view by an acknowledgement of an observation made earlier by Wilhelm Frederich Hegel (1770-1831), the German philosopher, who declared that "what experience and history teach us is this—that people and governments never have learned anything from history or acted on principles deduced from it."

So, while acknowledging the progress made by the medical and dental professions toward preventing, controlling and eliminating disease, it seems natural that the question should come to be posed: Have the politico-sociological and theological experts been comparably as successful in curing the social, economic and moral ills of the world and in eliminating war? The answer is no. Emerson was right; man is "born into the state of war." If history attests anything, it is not that warfare is an unnatural state, but on the contrary that it is an innate and incontrovertible trait of the human race. Why this is so has for long, in the

opinion of this commentator, been quite simple. It stems from the bare fact that human nature does not change.

With respect to war, the major change since the dawn of history has been native to the progressively more devastating means of waging it. And the hydrogen bomb is not the last word. The death ray is already something more than a figment of fancy.

Therefore, it would appear that the "Two Armies" so poetically and poignantly described by Oliver Wendell Holmes will continue to march, tomorrow and tomorrow and tomorrow.

"TWO ARMIES"

As Life's unending column pours,
  Two marshalled hosts are seen,—
Two armies on the trampled shores
  That Death flows black between.

One marches to the drum-beat's roll,
  The wide-mouthed clarion's bray,
And hears upon a crimson scroll,
  "Our glory is to slay."

One moves in silence by the stream,
  With sad, yet watchful eyes,
Calm as the patient planet's gleam
  That walks the clouded skies.

Along its front no sabers shine,
  No blood-red pennons wave,
Its banner bears the single line,
  "Our Duty is to save."

H. Lamont Pugh, M.D.

following infection

B and C vitamins are therapy: STRESSCAPS B and C vitamins in therapeutic amounts...help the body mobilize defenses during convalescence...aid response to primary therapy. The patient with a severe infection, and many others undergoing physiologic stress, may benefit from STRESSCAPS capsules.

Stresscaps®

Stress Formula Vitamins Lederle

FOR PROFESSIONAL RECOMMENDATION ONLY

Each capsule contains:

Vitamin B_1 (as Thiamine Mononitrate)	10 mg
Vitamin B_2 (Riboflavin)	10 mg
Vitamin B_6 (Pyridoxine HCl)	2 mg
Vitamin B_{12} Crystalline	4 mcgm
Vitamin C (Ascorbic Acid)	300 mg
Niacinamide	100 mg
Calcium Pantothenate	20 mg

Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 and 100; bottles of 500.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

Lederle

626-6-3612

"George wants to know if it's okay to take his cold medicine now, Doctor, instead of seven o'clock?"

The long-continued action of Novahistine LP should help you both get a good night's sleep. Two tablets in the morning and two in the evening will usually provide round-the-clock relief by helping clear congested air passages for freer breathing. Novahistine LP also helps restore normal mucus secretion and ciliary activity—normal physiologic defenses against infection of the respiratory tract Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution ambulatory patients that drowsiness may result. Each Novahistine LP tablet contains: phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

NOVAHISTINE® LP

DOW **PITMAN-MOORE** Division of The Dow Chemical Company, Indianapolis

News . . . .

Calendar of Events

Second Virginia Congress on Mental Health and Illness—John Marshall Hotel—Richmond—April 14-15, 1967.

Virginia Society of Anesthesiologists—4th Annual Meeting and Scientific Symposium—Sheraton Motor Inn—Richmond—April 14-16, 1967.

Seminar on Skin Lesions Associated with Systemic Disease—Petersburg General Hospital—April 17, 1967.

Cancer Workshop—Sponsored by Commission on Cancer of the American College of Surgeons—Medical College of Virginia—Richmond—April 21, 1967.

National Congress on Environmental Health Management—Americana Hotel—New York—April 24-26, 1967.

Tenth Annual Joint Cardiac Symposium—Sponsored by Heart Association of Northern Virginia and Washington Heart Association—Marriott Twin Bridges Motor Hotel—Arlington—April 27, 1967.

Seminar on Anovulatory Drugs—Petersburg General Hospital—May 1, 1967.

Seminar on Lesions of Colon—Petersburg General Hospital—May 15, 1967.

Medicine and Religion Symposium—Sponsored by AMA Department of Medicine and Religion, University of North Carolina School of Medicine and Medical Society of the State of North Carolina—Chapel Hill, North Carolina—June 11-13, 1967.

Annual Meeting of American Medical Association—Atlantic City, New Jersey—June 18-22, 1967.

Medical Aspects of Sports Conference—Sponsored jointly by The Medical Society of Virginia and Virginia High School League—Virginia Polytechnic Institute, Blacksburg—July 23, 1967.

Eighth Annual Cardiovascular Symposium—Sponsored by Tidewater Heart Association—Golden Triangle Motor Hotel—Norfolk—September 15-16, 1967.

Annual Meeting of The Medical Society of Virginia—Marriott Twin Bridges Motor Hotel—Arlington—October 19-22, 1967.

New Members.

The following members were received into The Medical Society of Virginia during the month of February:

Rudolph Mardre Bell, M.D., Staunton
James Michael Bestler, M.D., Martinsville
James Edward Blackburn, M.D., Lynchburg
Herbert Martin Brewer, M.D., Norfolk
Richard Fry Bunting, M.D., Richmond
James Ryland Darden, Jr., M.D., Richmond
John Benjamin Davies, M.D., Alexandria
Paul Edward Finnerty, M.D., Arlington
Charles Conrad Freed, Jr., M.D., Danville
Harold Milton Horden, M.D., Norfolk
Paul Hampton Hylton, M.D., Winchester
Arthur H. Jennette, M.D., Norfolk
Warren Woodson Koontz, M.D., Richmond
William David McWhorter, M.D., Winchester
Frederick Rahal, M.D., Richmond
Clarke Russ, M.D., Norfolk

David Samuel Skloff, M.D., Hampton
Clinton Wolfe Stallard, Jr., M.D., Newport News
Ralph Rousseau Stephens, M.D., Norfolk
Albert S. Thompson, Jr., M.D., Richmond
Vivian Myrtle Wilkerson, M.D., Fort Lee

Culpeper County Medical Society.

Dr. Robert L. Cassidy has been re-elected president of this Society for his fourth term. Dr. Cecil G. Finney was named president-elect, Dr. R. W. Quaintance, Jr., vice-president, Dr. George Broman, secretary, and Dr. Donald Miller, treasurer. All officers are from Culpeper.

Prince William County Medical Society.

New officers for 1967 are: president, Dr. John A. Opal, Occoquan; president-elect, Dr. Nicholas G. Colletti, Dumfries; vice-president, Dr. George K. Seitz, Manassas; and secretary-treasurer, Dr. E. C. Lyon, Haymarket.

Virginia Society of Internal Medicine.

At the annual meeting of this Society held in Roanoke in February, Dr. John C. Hortenstine, Winchester, was installed as president. Dr. Walter P. Adams, Norfolk, was named president-elect; Dr. Frank A. Wade, Roanoke, vice-president; and Dr. Thomas L. Gorsuch, Waynesboro, secretary-treasurer.

Dr. Gerald W. Roller,

Roanoke, has been honored by the Roanoke Jaycees by the presentation of the distinguished citizens award for outstanding community service.

Dr. Hume Honored.

The Harvard Club of Virginia has honored Dr. David M. Hume, chairman of the surgery department of the Medical College of Virginia, for his accomplishment in medicine, particularly in the kidney transplant field and in medical education. An award dinner was held in March, at which Dr. J. Hartwell Harrison, Jr., Elliott Carr Cutler professor of surgery at Harvard was speaker.

Dr. Alfred Bartlett Cramer, III,

Culpeper, has been presented the Jaycees Distinguished Service Award by the Culpeper County Junior Chamber of Commerce.

Dr. Waller Littlepage Taylor

Has been named 1967 "Virginia Beach First Citizen" by the Virginia Beach Jaycees.

Fauquier Hospital Staff.

Dr. Robert W. Iden, Warrenton, has been elected president of the medical staff of the Fauquier Hospital with Dr. J. Paul Wampler, Manassas, as vice-president, and Dr. John F. Denton, Warrenton, re-elected secretary-treasurer.

Dr. E. Armistead Talman

Is now associated in the practice of general surgery with Drs. Frank S. Johns, Donald S. Daniel, William A. Johns, Thomas N. P. Johns, B. Noland Carter, II, and James A. Selph, Jr., of Johnston-Willis Hospital, Richmond.

Dr. James E. Harris,

Blackstone, has been presented the Father of the Year Award by the Blackstone Jaycees.

A Symposium on Medicine and Religion

Will be held at the School of Medicine, University of North Carolina, Chapel Hill, June 11-13, under the title "The Physician, the Clergy and the Whole Man". Physicians and clergymen are invited to participate in this occasion which is sponsored by the Committee on Medicine and Religion of the

Medical Society of the State of North Carolina, the Department of Religion of the American Medical Association and the University of North Carolina School of Medicine. Detailed programs and information regarding registration, etc., may be secured from the Office of Continuation Education, University of North Carolina School of Medicine, Chapel Hill, North Carolina 27514.

Dr. J. Paul Kent, Sr.,

Altavista, has been presented a pin and a certificate for over 31 years of medical service to his community and his loyal assistance to scouting. The award was made by the Boy Scouts in their service of Operation Thank You.

Anesthesiologist Wanted.

Qualified anesthesiologist to head department in 200-bed general hospital in Virginia. Income in excess of $30,000.00, largely on fee-for-service basis. Contact #130, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Wanted.

Young general practitioner or internist interested in family practice for a small town, fifteen miles north of Richmond, at Ashland. Private or medical center facilities available. The medical center is fully equipped as a clinic type facility. Several hospitals, including the Medical College of Virginia, are available via Interstate 95 within thirty minutes. Please contact Charles J. Blair, Chairman of the Hanover County Medical Services Committee, Ashland, Virginia. Telephone 798-7878 (Richmond). (*Adv.*)

Position Available.

Maternity and Infant Care Project Director. Male or female. Eligible for license to practice in Virginia; Board Certified in Obstetrics and Gynecology or in Pediatrics. Stimulating position in large City Health Department with excellent fringe benefits. Salary range $15,000 to $19,600 annually. Employment in advanced step, based upon qualifications. For further information contact Director of Public Health, Richmond City Health Department, 500 North 10th Street, Richmond, Virginia. (*Adv.*)

For Rent.

Grace at Robinson Street, Richmond. First floor, separate entrance, available for doctor's offices. Will remodel and air condition. Ample private parking; convenient to two bus lines, bank, stores. Contact V. D. Smith, 602 North Boulevard, Richmond, Virginia 23220. (*Adv.*)

Obituary . . . .

Dr. George Bilton Lawson,

Roanoke, died February 15th, at the age of eighty-eight. He received his medical degree from Johns Hopkins University in 1905. Dr. Lawson was a former member of the State Board of Health, having served in this capacity for fifty years, and was for a number of years chairman of the board of Catawba Sanatorium. He retired from both positions in 1962. Dr. Lawson had been a member of The Medical Society of Virginia for fifty-seven years.

His wife, a son and two daughters survive him.

UP TO 10–12 HOURS' CLEAR BREATHING ON ONE TABLET

Dimetapp® Extentabs®

(Dimetane® [brompheniramine maleate], 12 mg.; phenylephrine HCl, 15 mg.; phenylpropanolamine HCl, 15 mg.)

n sinusitis, colds, or U.R.I., Dimetapp lets congested patients reathe easy again. Each Extentab rings welcome relief all day or all night, sually without drowsiness or over-timulation. Its key to success? The Dimetapp formula—Dimetane (brom-heniramine maleate), a potent anti-istamine reported in one study to have licited side effects as few as the placebo,* eamed with decongestants phenyl-phrine and phenylpropanolamine—n a dependable 10- to 12-hour form.

*chiller, I. W., and Lowell, F. C.: New England Med. 261:478, 1959.

Contraindications: Patients hypersensitive to antihistamines. Not recommended for use during pregnancy.

Precautions: Until the patient's response has been determined, he should be cautioned against engaging in operations requiring alertness. Administer with care to patients with cardiac or peripheral vascular diseases or hypertension.

Side Effects: Hypersensitivity reactions including skin rashes, urticaria, hypotension and thrombocytopenia have been reported on rare occasions. Drowsiness, lassitude, nausea, giddiness, dryness of the mouth, mydriasis, increased irritability, or excitement may be encountered.

Dosage: 1 Extentab morning and evening, or as needed.

Supplied: Bottles of 100 and 500.

Also available: Dimetapp® Elixir for conventional *t.i.d.* or *q.i.d.* dosage. See package insert for further details.

A. H. ROBINS CO., INC.
RICHMOND, VIRGINIA 23220

A·H·ROBINS

Against these three major pathogens...

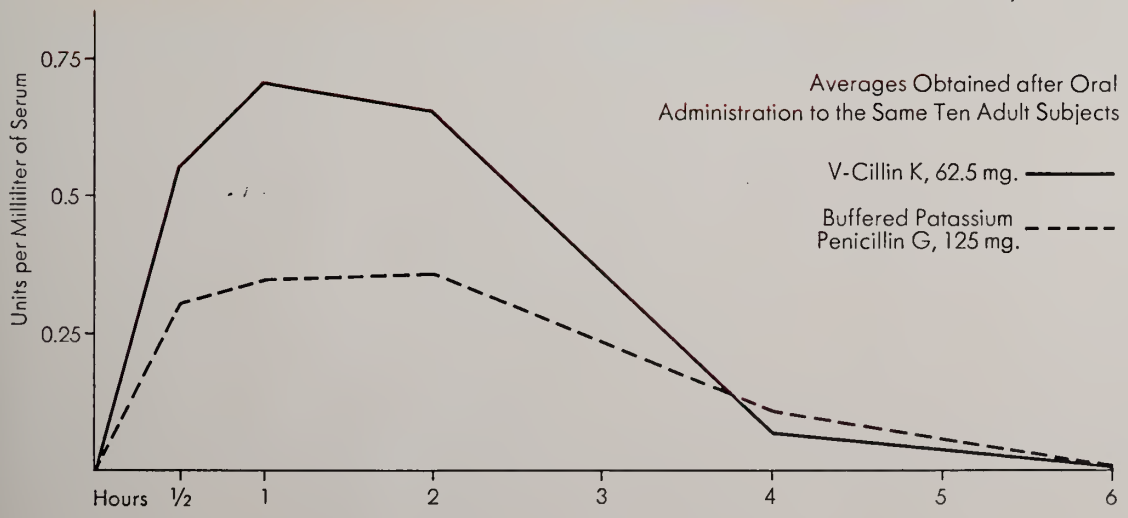
V-Cillin K® provides unexcelled oral antibacterial activity

because it combines a high degree of in-vitro activity...

Antibiotic	Staph. Aureus (Penicillin-Sensitive) MIC (mcg./ml.) Median	Range	Streptacaccus, Group A MIC (mcg./ml.) Median	Range	Diplococcus Pneumaniae MIC (mcg./ml.) Median	Range
Penicillin V	0.02	0.02-0.04	0.02	0.003-0.4	0.01	0.005-0.2
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Claxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269 1019, 1963.

with high blood levels, even in the presence of food



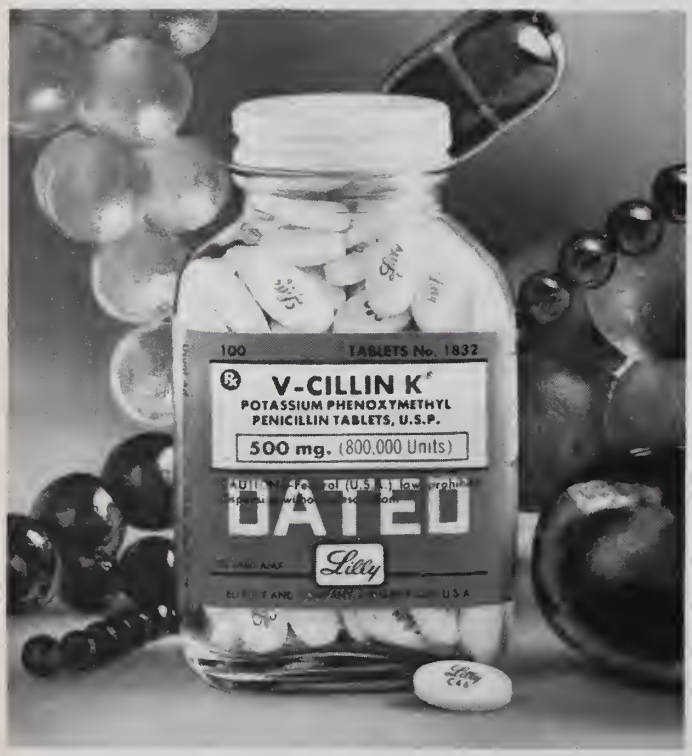
Adapted from Griffith, R. S., and Black, H. R.: Current Ther. Res., 6 253, 1964.

V-Cillin K® Lilly 700157

Potassium Phenoxymethyl Penicillin

(See next page for prescribing information.)

New 500 mg. tablets...a more convenient way to give high doses



Description: V-Cillin K is the potassium salt of V-Cillin® (phenoxymethyl penicillin, Lilly). This chemically improved form combines acid stability with immediate solubility and rapid absorption. Higher serum levels are obtained more rapidly with this penicillin than with equal oral doses of penicillin G. The higher serum levels and acid stability of V-Cillin K make it a more dependable penicillin for oral use.

V-Cillin K, Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed each 5 cc (approximately one teaspoonful) will contain 125 mg (200,000 units) phenoxymethyl penicillin as the potassium salt

Indications: V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

Contraindication: V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

Precautions: V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy Reactions occur more frequently in individuals with bronchial asthma or other allergies or in those who have previously demonstrated sensitivity to penicillin. I hypersensitivity reactions occur, the drug should be discontinued

Adverse Reactions: Although serious allergic reactions are muc less common with administration of oral penicillin than with intramuscu lar forms, skin rash, symptoms resembling those of serum sickness, o other manifestations of penicillin allergy may occur. When penicillin i administered, measures for treating anaphylaxis should be readi available. Those include epinephrine, oxygen, and pressor drugs fo relief of immediate allergic manifestations as well as antihistamine and corticosteroids for delayed effects.

The use of antimicrobial agents may be associated with the aver growth of antibiotic-resistant organisms; in such a case, antibiotic ad ministration should be stopped and appropriate measures taken

Administration and Dosage: For Tablets V-Cillin K and for V-Cilli K, Pediatric, the usual dosage ranges from 125 mg. (200,000 units three times a day to 500 mg. (800,000 units) every four hours. For in fants, the daily dosage may be 50 mg. per Kg. of body weight divide into three doses.

Beta-hemolytic streptococcus infections without associated bacte remia may be treated with 200,000 to 400,000 units three times a da Therapy should be continued for a minimum of ten days to prevent de velopment of rheumatic fever and/or other serious complications. Do age for routine streptococcus prophylaxis in patients with a history o rheumatic fever or congenital heart disease may be 200,000 units anc or twice daily. When such patients undergo tonsillectomy, tooth extra tion, or other minor surgery, the prophylactic dose should be 500,0 units every six hours given two days prior to surgery and for two do postoperatively. If oral medication is not feasible on the day of su gery, parenteral therapy should be considered. Mild to moderate severe pneumococcus pneumonia has been treated effectively w 250 mg every six hours

In staphylococcus infections, 400,000 units or more should be giv every six to eight hours in conjunction with indicated surgical proc dures.

For gonorrhea in males, 500 mg. (800,000 units) every six hours three doses may be employed; in females, 500 mg. every four hours six doses are recommended. Patients with a suspected lesion of syph should have a dark field examination before receiving penicillin c monthly serologic tests for a minimum of three months.

How Supplied: Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units) bottles of 50 and 100; 250 mg. (400,000 units), and 500 mg. (800,0 units) in bottles of 24 and 100.

V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) 5 cc. of solution, in 40, 80, and 150-cc.-size packages.

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.

Lilly

Dr. Berlie Trawic Swecker,

Blue Grass, died February 10th. He was seventy-one years of age and a graduate of the Medical College of Virginia in 1917. He began his practice at Blue Grass shortly after his graduation and had semi-retired only in recent years. Dr. Swecker was a charter member of the Blue Grass Ruritan Club and was honored by that group in 1962 for forty-five years of service to his community. He was also a Mason. Dr. Swecker was a member of The Medical Society of Virginia, having joined in 1920.

His wife, two sons and a daughter survive him.

Dr. Lemuel Redmond Broome

Died in Fremont, North Carolina, February 21st, at the age of seventy-three. He was a graduate of the School of Medicine, University of Virginia, in 1925. Dr. Broome was formerly director of Catawba Sanatorium in Roanoke and Hilltop Sanatorium in Danville. He had been a member of The Medical Society of Virginia since 1927.

Dr. Charles Albert Finnigan,

Charlottesville, died February 6th. He was sixty-one years of age and received his medical degree from Georgetown University in 1937. Dr. Finnigan was assistant professor in the Department of Neurology and Psychiatry at the University of Virginia from 1952 to 1957 and served as director of the psychiatric out-patient clinic. Since that time he had been in private practice. He began the practice of medicine in Falls Church in 1940 and began his residency in psychiatry at the University in 1949. Upon completion of this, Dr. Finnigan continued to make his home in Charlottesville. He had been a member of The Medical Society of Virginia for eighteen years.

His wife, a son and a daughter survive him.

Dr. Whitlock.

Dr. Simon Benjamin Whitlock, aged 74, who lived in Norfolk and Virginia Beach, died in Norfolk January 21, 1967, following a massive cerebral hemorrhage.

Dr. Whitlock was a native of Portsmouth, but moved to Norfolk almost immediately. He attended Maury High School and the University of Virginia, where he obtained his M.D. in 1917. He served as Liuetenant, MC, USNR, during World War I, and had had private medical practice in Norfolk since 1919.

Roentgenology was the major part of his practice for many years, and that department at the old Sarah Leigh Hospital was operated by him.

He was an avid baseball fan and had attended most of the World Series since 1917. He was the physician for all teams at Maury High School until his death, and in 1965 was cited for his faithfulness in that capacity.

Dr. Whitlock was a member of the Staffs of Norfolk General and Leigh Memorial Hospitals. He was a member of the Norfolk County Medical Society, The Medical Society of Virginia and the Seaboard Medical Association. He was a diplomate of the American Board of Radiology, and held membership in the American College of Radiology, the American Roentgen Ray Society and the Radiological Society of North America.

He was a member of Ohef Sholom Temple, of Zeta Beta Tau National Fraternity, and of the Hague Club and Norfolk Sports Club.

Dr. Whitlock never married. He is survived by his brother and sister, and by his nephew, Dr. Lee E. Whitlock, Jr., of Norfolk.

Whereas, with his many years of practice and of membership in this Society,

Be it resolved that his family be extended the sympathy of this Society and copies of this resolution be sent them.

Southgate Leigh, Jr., M.D.
W. Callier Salley, M.D.
Walter P. Adams, M.D., *Chairman*

ST. ELIZABETH'S HOSPITAL

617 West Grace Street
Richmond, Virginia
Established 1912

Guy W. Horsley, M.D.
General Surgery and Gynecology

James T. Gianoulis, M.D.
General Surgery and Gynecology

James W. Pancoast, M.D.
General Surgery and Gynecology

Leroy Smith, M.D.
Plastic Surgery

Hunter B. Frischkorn, Jr.
Radiology

Austin I. Dodson, Jr., M.D.
Urology

J. Edward Hill, M.D.
Urology

William T. Stuart, M.D.
Urology

Levi W. Hulley, M.D.
General Medicine

Clarry C. Trice, M.D.
General Medicine

Douglas G. Chapman, M.D.
Internal Medicine

George W. Reese, Jr., M.D.
Internal Medicine

Elmer S. Robertson, M.D.
Internal Medicine

Charles A. Pollock, Jr., M.D.
Internal Medicine

William R. Draper, *Administrator*

For the Care of Surgical, Gynecological, Urological and Medical Cases.

Westbrook
Psychiatric Hospital, Inc.
Richmond, Virginia

FOUNDED 1911

REX BLANKINSHIP, M.D.
President

JOHN R. SAUNDERS, M.D.
Medical Director

THOMAS F. COATES, JR., M.D.
Assistant Medical Director

J. McDERMOTT BARNES, M.D.
Associate

R. H. CRYTZER
Administrator

WESTBROOK PSYCHIATRIC HOSPITAL, INC.
P. O. Box 1514, Richmond 27, Virginia
Telephone 266-9671

Appalachian Hall • Asheville, North Carolina

Established 1916

An Institution for the diagnosis and treatment of Psychiatric and Neurological illnesses, rest, convalescence drug and alcohol habituation.

Insulin Coma, Electroshock and Psychotherapy are employed. The Institution is equipped with complete laboratory facilities including electroencephalography and X-ray.

Appalachian Hall is located in Asheville, North Carolina, a resort town, which justly claims an all around climate for health and comfort. There are ample facilities for classification of patients, rooms single or en suite.

Wm. Ray Griffin, Jr., M.D.
Robert A. Griffin, Jr., M.D.
Mark A. Griffin, Sr., M.D.
Mark A. Griffin, Jr., M.D.

For rates and further information write APPALACHIAN HALL. Asheville, N. C.

STUART CIRCLE HOSPITAL

413-21 Stuart Circle RICHMOND, VIRGINIA

Medicine:
Manfred Call, III, M.D.
Alexander G. Brown, III, M.D.
John D. Call, M.D.
Wyndham B. Blanton, Jr., M.D.
Frank M. Blanton, M.D.
William W. Martin, Jr., M.D.

Obstetrics and Gynecology:
Wm. Durwood Suggs, M.D.
Spotswood Robins, M.D.
David C. Forrest, M.D.
Joseph C. Parker, M.D.
William M. Oppenhimer, M.D.

Orthopedics:
Beverley B. Clary, M.D.
James B. Dalton, Jr., M.D.
Franklin P. Watkins, M.D.

Pediatrics:
Edward G. Davis, Jr., M.D.
Thomas P. Overton, M.D.
Edward J. Wiley, M.D.

Ophthalmology, Otolaryngology:
J. Warren Montague, M.D.

Anesthesiology:
William B. Moncure, M.D.
Heth Owen, Jr., M.D.

Surgery:
A. Stephens Graham, M.D.
Charles R. Robins, Jr., M.D.
Carrington Williams, M.D.
Richard A. Michaux, M.D.
Carrington Williams, Jr., M.D.
Armistead M. Williams, M.D.

Urological Surgery:
Frank Pole, M.D.
Harry S. Rowland, Jr., M.D.

Oral Surgery:
Guy R. Harrison, D.D.S.

Physical Therapy
Jacquelyn F. Pearman, R.P.T.

Plastic Surgery:
Hunter S. Jackson, M.D.

Roentgenology and Radiology:
Hunter B. Frischkorn, Jr., M.D.
William C. Barr, M.D.
James W. Proffitt, M.D.

Pathology:
James B. Roberts, M.D.

Director:
Charles C. Hough

Gill Memorial Eye, Ear, Nose And Throat Hospital, Inc. And Clinic

707-711 South Jefferson Street • Roanoke, Virginia

STAFF

Dr. Elbyrne G. Gill
Dr. Houston L. Bell
Dr. Ronald B. Harris
Dr. Scott W. Little
Dr. Junius E. Crowgey
Dr. Antonio B. DeGala
George H. Bratton
Business Manager
David G. Williamson, Jr.
Administrator

A Modern Fireproof Hospital and Clinic, the Latter Recently Designed in the Adjacent Seven-O-Seven Building Especially Equipped for the Medical and Surgical Care of Ophthalmology, Otalaryngology, Surgery for Deafness, Rhinoplastic Surgery, Bronchoscopy and Esophagoscopy.

The Courtesy Staff also Includes Dental and Oral Surgery.
Complete Laboratory and X-Ray Equipment. Physicians and Graduate Nurses in Constant Attendance.

For further information, address:

Business Manager, Box 1789, Roanoke, Virginia 24008

SAINT ALBANS

PSYCHIATRIC HOSPITAL

(A Non-Profit Organization)

Radford, Virginia

Telephone: 639-2482

STAFF

James P. King, M.D., Director

William D. Keck, M.D.
Clinical Director
James K. Morrow, M.D.
Morgan E. Scott. M.D.

Edward E. Cale, Jr., M.D.
J. William Giesen, M.D.
Internist (Consultant)

Clinical Psychology:
Thomas C. Camp, Ph.D.
Cardestal McGraw, Ph.D.
David L. Strahley, Ph.D.

Don Phillips
Administrator
R. Lindsay Shuff, M.H.A.
Assistant Administrator

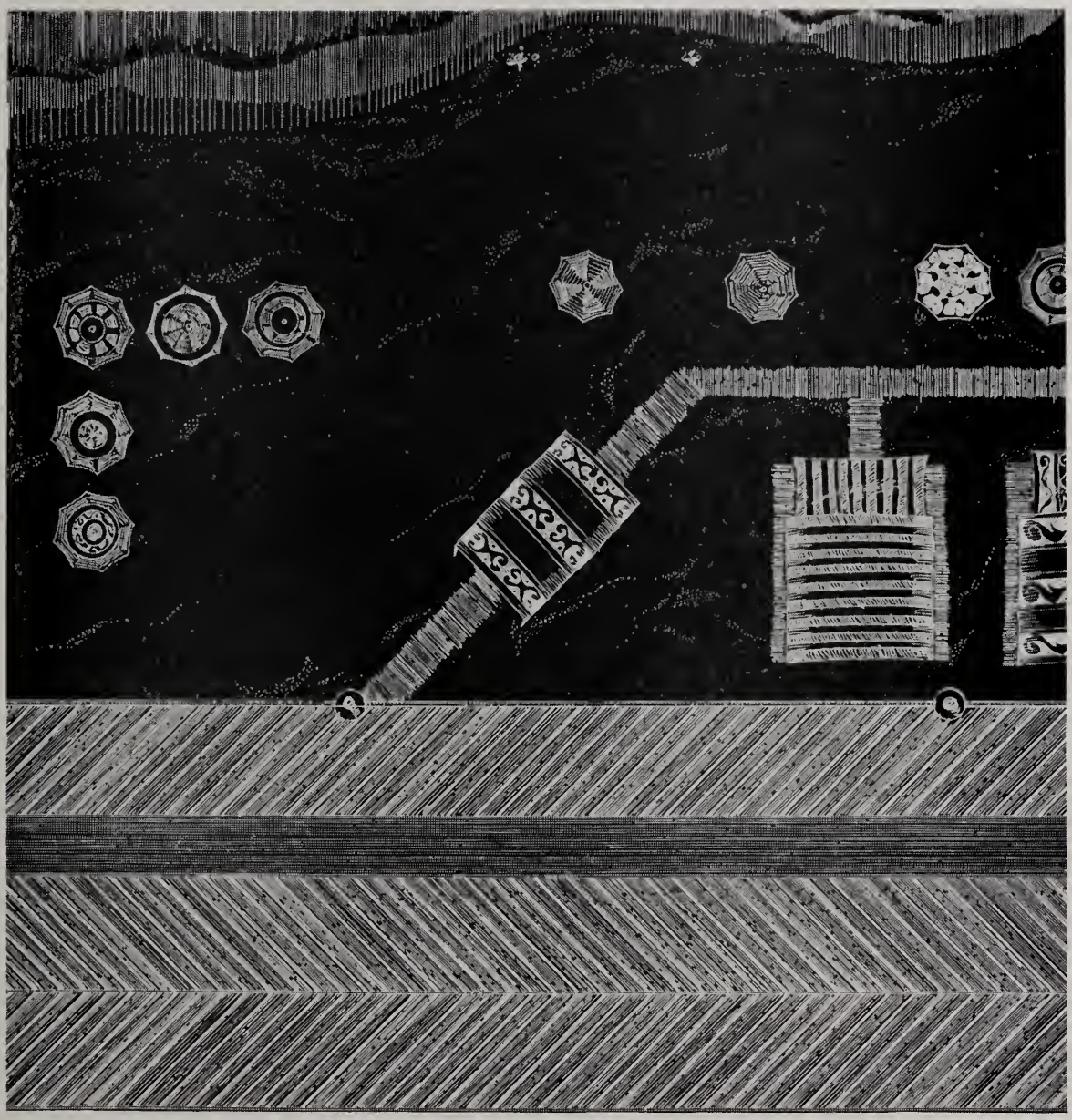
AFFILIATED CLINICS

Bluefield Mental Health Center
525 Bland St., Bluefield, W. Va.
David M. Wayne, M.D.
Phone: 325-9159

Charleston Mental Health Center
1206 Quarrier St., Charleston, W. Va.
Malcolm G. MacAulay, M.D.
Phone: 344-3578

Beckley Mental Health Center
109 E. Main Street, Beckley, W. Va.
W. E. Wilkinson, M.D.
Phone: 253-8397

Mental Health Clinic
Professional Building, Wise, Va.
Pierce D. Nelson, M.D.
Phone: 328-2211



AMA · 116th Annual Convention · Atlantic City, New Jersey · June 18-22, 1967

Come to Atlantic City—one of America's favorite by-the-sea playgrounds—and join your colleagues at the AMA's 116th ANNUAL CONVENTION!

Fine hotels and motels, excellent restaurants, plus all the advantages of a lively resort make this year's Convention a must for you and your family. Atlantic City provides a superb setting for a summer classroom and all the latest techniques of modern medicine. Plan to be one of the participants in this rewarding four day postgraduate education program.

• Four general scientific sessions • 23 section programs • 575 scientific and industrial exhibits. Lectures, panel discussions, motion pictures, and color television. Plan to attend—continue your postgraduate education.

RESERVE NOW for the SCIENTIFIC AWARDS DINNER in honor of the Scientific Award Winners—Wednesday, June 21, 1967. Since space is limited, we suggest you make your reservations before June 1, 1967. Tickets are $10.00 each, payable in advance.

See JAMA May 8, 1967 for complete scientific program—forms for advance registration and hotel accommodations.

JOHNSTON-WILLIS HOSPITAL

RICHMOND, VIRGINIA

A MODERN GENERAL HOSPITAL
PRIVATELY MANAGED
SITUATED IN THE QUIET OF THE
WEST END RESIDENTIAL SECTION

Riverside Convalescent Home

Sophia & Fauquier Sts.
Fredericksburg, Virginia

Large, air-conditioned, Firesafe building with hospital-like facilities but in a cheerful home-like atmosphere. Twenty-four hour medical supervision and nursing care.

Recreational areas—Occupational and Physiotherapy. Excellent food service. Lovely Riverside Park. Inspection invited. All types of accommodations available.

Rates:
$50.00 to $80.00 per week

CLAY'S REST HOME

801 LUNENBURG AVENUE
BLACKSTONE, VIRGINIA

Telephone 292-4497 Area Code 703

A NEW CONCEPT IN RETIRED LIVING FOR OUR SENIOR CITIZENS

Clay's Rest Home has been designed for the retired who wish to be relieved of housekeeping and for those who desire companionship with people their own age.

. . . QUIETLY LOCATED
. . . HOME LIKE ATMOSPHERE
. . . RECREATION FACILITIES
. . . COMFORTABLE SURROUNDINGS
. . . ADJACENT BUSINESS AREA

State approved. Physicians on call 24-hours daily.

DIARRHEA

CANTIL®
(mepenzolate bromide)

Diarrhea, one of the most vexing symptoms of common G.I. disorders can often be curbed with Cantil (mepenzolate bromide), bringing welcome relief to the harassed patient. Relatively specific for the hyperactive colon, it helps reduce diarrhea, pain and spasm with minimal effect on other viscera. Cantil (mepenzolate bromide) is indicated whenever these symptoms are associated with irritable colon, gastroenteritis, diverticulitis, and mild to moderate ulcerative colitis.

It is an anticholinergic drug without narcotic properties. Side effects are usually mild.

IN BRIEF: One or two tablets three times a day and one or two at bedtime usually provide prompt relief. Cantil with Phenobarbital may be prescribed if sedation is required.

Dryness of the mouth, blurring of vision, constipation, nausea, vomiting, bloating and dizziness may occur but are usually mild and transitory. Urinary retention is rare. Caution should be observed in prostatic hypertrophy — withhold in glaucoma. Contraindicated in patients sensitive to phenobarbital and/or Cantil (mepenzolate bromide); in toxic megacolon, obstruction of G.I. or G.U. tract.

SUPPLIED: CANTIL (mepenzolate bromide) — 25 mg. per scored tablet. Bottles of 100 and 250. CANTIL with PHENOBARBITAL — containing in each scored tablet 16 mg. phenobarbital (warning: may be habit forming) and 25 mg. mepenzolate bromide. Bottles of 100 and 250.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

When the problem is only skin deep

USE 'POLYSPORIN'® brand POLYMYXIN B-BACITRACIN OINTMENT

for topical antibiotic therapy with minimum risk of sensitization

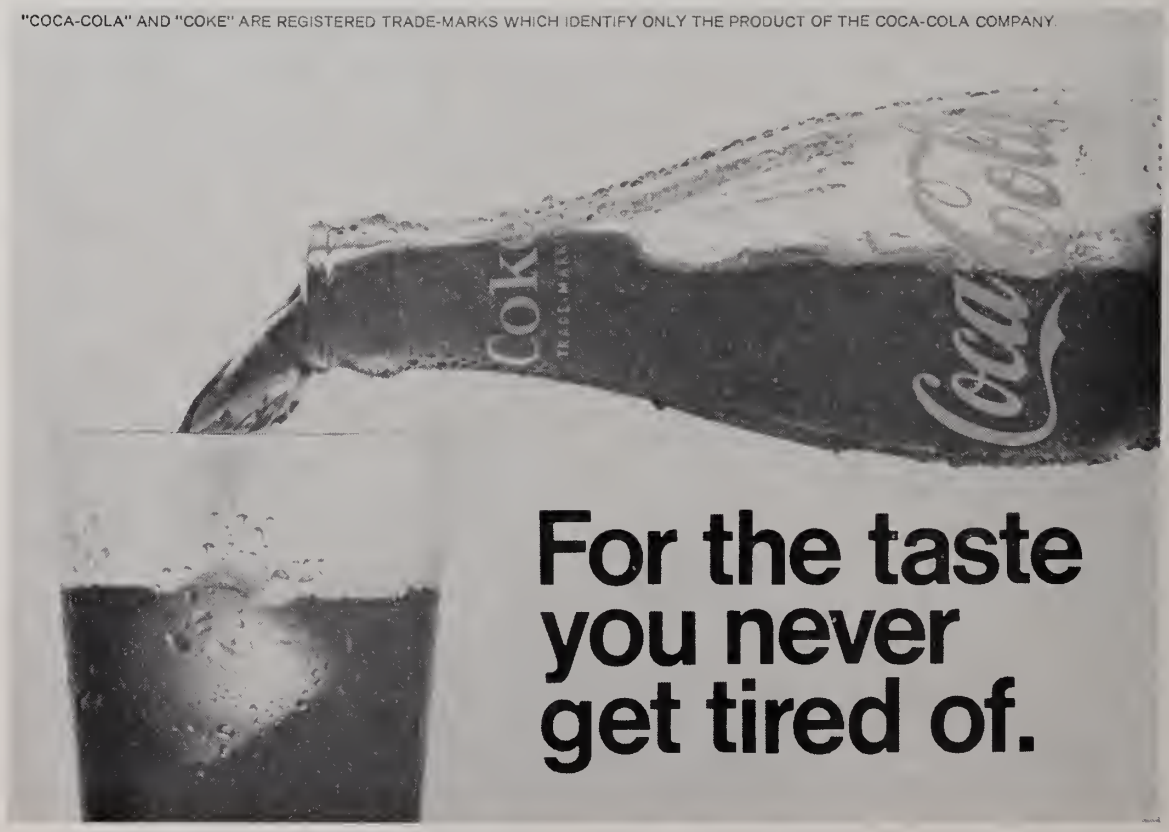
Caution: As with other antibiotic products, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

Supplied in ½ oz. and 1 oz. tubes.

Complete literature available on request from Professional Services Dept. PML.

BURROUGHS WELLCOME & CO. (U.S.A.) INC.
Tuckahoe, N.Y.

"COCA-COLA" AND "COKE" ARE REGISTERED TRADE-MARKS WHICH IDENTIFY ONLY THE PRODUCT OF THE COCA-COLA COMPANY.



"Livingston...vertigo is my doom!"
Cried Stanley in his doctor's room.

Said the doc, "For your ills
I've got just the pills."

Said Stan,
"Antivert, I presume."

Antivert® tablets/syrup stops vertigo
(meclizine HCl, niacin)

Tablets: (meclizine HCl 12.5 mg. and niacin 50 mg.) Syrup: (each 5 cc. teaspoonful contains meclizine HCl 6.25 mg. and niacin 25 mg.)

Most widely prescribed anti-vertigo agent[1]
Complete to moderate relief of symptoms in 9 out of 10 patients[2]

Antivert, the leading anti-vertigo product,[1] combines meclizine HCl, an outstanding drug for treatment of vestibular dysfunction, with niacin, a drug of choice for prompt vasodilation. Prescribe Antivert for your patients with vertigo, Meniere's syndrome and allied disorders.

Precautions and contraindications: Frequent, short-lived reactions include: cutaneous flushing, sensations of warmth, tingling and itching, burning of skin, increased gastrointestinal motility, and sebaceous gland activity. In explaining these reactions to the patient, it is suggested that they be regarded as a desirable physiological sign that the niacin is carrying out its intended function of vasodilation. Because of this vasodilation, severe hypotension and hemorrhage are obvious contraindications to Antivert therapy. Although the incidence of drowsiness and other atropine-like side effects such as dry mouth and blurring of vision is low, the physician should alert the patient to the need for due precautions when engaging in activities where alertness is mandatory. **Use in women of childbearing age:** A review of available animal data reveals that meclizine exerts a teratogenic response in the rat. In one study a dose of 50 mg./kg./day (50 times the maximum recommended human dose) produced cleft palate in 2 of 87 fetuses when administered to the rat at critical times during the first 15 days of gestation. At doses of 125 mg./kg./day, meclizine will produce 100% incidence of cleft palate in the rat. At doses of 25 mg./kg./day, decreased calcification of the vertebrae and relative shortening of the limbs were also produced in the rat, but experts disagree as to whether this is a teratogenic response. While available clinical data are inconclusive, scientific experts are of the opinion that this drug may possess a potential for adverse effects on the human fetus. Consequently, consideration should be given to initial use of a nonphenothiazine agent that is not suspected of having a teratogenic potential. In any case, the dosage and duration of treatment should be kept to a minimum. **Dosage:** One tablet or one to two teaspoonfuls (5-10 cc.) t.i.d. just before meals. Specific requirements for individual patients should be determined by the physician. **Supplied:** Tablets in bottles of 100 and 500. Syrup in pint bottles. RX only.

References: 1. Based on 1966 data from independent physicians' market survey organization. 2. Scal, J. C.: Eye Ear Nose & Throat Month. **38**:738 (Sept.) 1959.

Neobon®
geriatric ♀ supplement
helps keep them 'on the go'

Each capsule contains:

(1) **Vitamins and Minerals**	
Vitamin A (acetate)	2000 U.S.P. units
Vitamin D (ergocalciferol, U.S.P.)	200 U.S.P. units
Vitamin B_1 (thiamine mononitrate, U.S.P.)	0.5 mg.
Vitamin B_2 (riboflavin, U.S.P.)	0.5 mg.
Vitamin B_6 (pyridoxine HCl, U.S.P.)	0.5 mg.
Niacinamide, U.S.P.	50 mg.
Calcium pantothenate, U.S.P.	5 mg.
Vitamin E (dl-alpha tocopheryl acetate)	5 I.U.
Rutin	5 mg.
Cobalt (from cobalt sulfate)	0.033 mg.
Molybdenum (from sodium molybdate)	0.066 mg.
Copper (from copper sulfate)	0.33 mg.
Manganese (from manganese sulfate)	0.33 mg.
Magnesium (from magnesium sulfate)	2 mg.
Iodine (from potassium iodide)	0.05 mg.
Potassium (from potassium sulfate)	1.66 mg.
Zinc (from zinc sulfate)	0.4 mg.
(2) **Hematopoietic Factors**	
Iron (from ferrous sulfate)	3.40 mg.
Vitamin B_{12} (cobalamin concentrate, N.F., as Stablets®)	1 mcg.
Vitamin C (ascorbic acid, U.S.P.)	50 mg
(3) **Digestive Enzyme**	
Pancreatic substance*	50 mg.
(4) **Gonadal Hormones**	
Methyltestosterone, N.F.	1.0 mg.
Ethinyl Estradiol, U.S.P.	0.006 mg.
(5) **Amino Acids**	
L-lysine (monohydrochloride)	50 mg.
L-Glutamic acid	30 mg.

*Enzymatically active defatted material obtained from 250 mg. of whole fresh pancreas.

For older adults who require it, daily supplementation with Neobon can help overcome decreases in endogenous gonadal hormone production, as well as deficiencies of iron, vitamins and other nutritional factors. In a single convenient capsule, Neobon provides vitamins, minerals, gonadal hormones, hematopoietic factors, digestive enzymes, and amino acids—all selected for adjunctive therapeutic value in the geriatric syndrome. For example, one of the gonadal hormones in Neobon is ethinyl estradiol. It is more slowly metabolized in the body than natural estrogens or their esters.

Precautions: Contraindicated in patients in whom estrogen or androgen therapy should not be used, as in carcinoma of the breast or prostate

Dosage: One capsule, t.i.d. with meals, or as directed by physician.

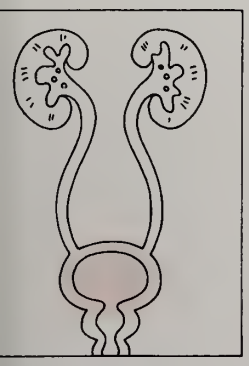
Supplied: Bottles of 60 capsules. Rx only.

J.B. ROERIG DIVISION
CHAS. PFIZER & CO., INC
NEW YORK, N.Y 10017

The battle with bacteria: cystitis

Artist's conception of cystoscopic view of bladder showing congested blood vessels and edema around ureteral orifice.

consider Gantanol (sulfamethoxazole)



For vigorous treatment of G.U. infections before the invaders become entrenched... Gantanol (sulfamethoxazole) offers a comprehensive spectrum of antibacterial effectiveness against most common gram-negative as well as gram-positive invaders. In addition, it provides satisfactory concentrations in e blood and urine with ready diffusion into interitial fluids for antibacterial activity at foci of bacterial vasion.

igh antibacterial activity against *E. coli* and other comon urinary pathogens... A review of 153 cases of acute .U. infections reported in the literature shows that 90% responded to Gantanol (sulfamethoxazole), with over one-half of these patients showing excellent relief of symptoms.[1,2] Even in stubborn chronic G.U. infections, almost 60% of 450 patients improved on Gantanol (sulfamethoxazole), including many who had not responded to other antibacterials.[1-6]

Generally uncomplicated therapy enhances the favorable clinical results... Of the total 686 patients from the studies cited,[1-6] only three discontinued therapy because of side effects. Most of the side effects reported (approximately 3%) were mild and included nausea and/or vomiting, skin rash, dizziness, headache, gastritis, generalized uneasiness and itching.[1-6]

1. Peters, J. H.: *J. Urol.*, *87*:747, 1962. 2. Draper, J. W., *et al.*: *South. M. J.*, *57*:920, 1964. 3. Stewart, B. L.: *J. Urol.*, *87*:491, 1962. 4. Hagstrom, R. S.: *Rocky Mountain M. J.*, *59*:(2), 37, 1962. 5. Arnold, J. H.: *Clin. Med.*, *71*:552, 1964. 6. Nelson, C. G.: *Colorado GP*, *3*:(3), 2, 1961.

efore prescribing, please consult complete product formation, a summary of which follows:

ontraindicated in sulfonamide-sensitive patients, egnant females at term, premature infants, or newrn infants during first three months of life.

arnings: Use only after critical appraisal in patients th liver damage, renal damage, urinary obstruction blood dyscrasias. If toxic or hypersensitivity reacons or blood dyscrasias occur, discontinue therapy. In termittent or prolonged therapy, blood counts and er and kidney function tests should be performed.

recautions: Observe usual sulfonamide therapy preutions, including maintenance of an adequate fluid take. Use with caution in patients with histories of lergies and/or asthma. Patients with impaired renal nction should be followed closely since renal impairent may cause excessive drug accumulation. Occaonal failures may occur due to resistant microorganms. Not effective in virus or rickettsial infections.

dverse Reactions: Headache, nausea, vomiting, urtiria, diarrhea, hepatitis, pancreatitis, blood dyscraas, neuropathy, drug fever, skin rash, Stevens-Johnson syndrome, injection of the conjunctiva and sclera, petechiae, purpura, hematuria or crystalluria may occur, in which case the dosage should be decreased or the drug withdrawn.

Dosage: Adults—4 tablets initially, then 2 tablets b.i.d. or t.i.d. depending upon severity of infection. Children —1 tablet/20 lbs initially, followed by ½ tablet/20 lbs b.i.d.

How Supplied: Tablets, 0.5 Gm, bottles of 50.

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

ROCHE

when there are bacterial invaders in the bladder, prostate or kidneys

Gantanol®
(sulfamethoxazole)

Everyone says she's a barrel of fun

But what does she think?

Many overweight patients can benefit from the appetite control provided by the sustained anorexigenic-tranquilizing action of BAMADEX SEQUELS: anorexigenic action of amphetamine; tranquilizing action of meprobamate; prolonged action through sustained release of active ingredients.

Bamadex® Sequels®

DEXTRO-AMPHETAMINE SULFATE (15 mg.) WITH MEPROBAMATE (300 mg.) SUSTAINED RELEASE CAPSULES

to help establish a new dietary pattern

Contraindications: Dextro-amphetamine sulfate: in hyperexcitability and in agitated prepsychotic states. Previous allergic or idiosyncratic reactions to meprobamate.

Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.

Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

Lederle

LEDERLE LABORATORIES
A Division of American Cyanamid Company,
Pearl River, New York

695-6

BAYBERRY PSYCHIATRIC HOSPITAL

HAMPTON, VIRGINIA

A private psychiatric hospital for the treatment of nervous and emotional disorders and the various problems of addiction for both white and colored—employing modern diagnostic and treatment procedures—electro-convulsive and insulin, individual and group psychotherapy, chemotherapy.

WENDELL J. PILE, M.D.
Medical Director

HOWARD L. COX, M.D. BASIL E. ROEBUCK, M.D.

CLINICAL PSYCHOLOGISTS

WILLIAM E. TYSON, Chief Psychologist

CHARLES T. PERKINS MILAN S. WILSON

BROCHURE OF LITERATURE SENT ON REQUEST
Write or call:

BAYBERRY PSYCHIATRIC HOSPITAL
530 East Queen Street
Hampton, Virginia 23369
Telephone: PARK 2-2504

HIGHLAND HOSPITAL

ASHEVILLE, NORTH CAROLINA

FOUNDED 1904

A DIVISION OF THE DEPARTMENT OF PSYCHIATRY OF DUKE UNIVERSITY

Accredited by the Joint Commission on Accreditation and Certified for Medicare

Complete facilities for evaluation of and intensive treatment of psychiatric patients, including individual psychotherapy, group therapy, psychodrama, electro-convulsive therapy, Indoklon convulsive therapy, drugs, social service work with families, family therapy, and an extensive and well organized activities program, including occupational therapy, art therapy, athletic activities and games, recreational activities and outings. The treatment program of each patient is carefully supervised in order that the therapeutic needs of each patient may be realized.

Complete modern facilities with 85 acres of landscaped and wooded grounds in the City of Asheville.

Brochures and information on financial arrangements available

Contact: MRS. ELIZABETH HARKINS, ACSW, *Coordinator of Admissions*

or

CHARLES W. NEVILLE, JR., M.D.
Assistant Professor of Psychiatry and Medical Director

Area Code 704—253-2761

Fourth Decade of Nursing

MRS. PLYLER'S NURSING HOME

KATE E. PLYLER (1876-1947) MARY I. CLARK (1884-1955) GENE CLARK REGIRER (1912-1962)

A private nursing home dedicated to the care of chronic, convalescent and aged

MRS. EDNA SHEPHERD TARCEN, Superintendent

1615 Grove Avenue, Richmond, Virginia, Telephone EL 9-3221

Fire Protection by Grinnell Sprinkler System

ST. LUKE'S HOSPITAL McGUIRE CLINIC

1000 West Grace Street
Richmond, Virginia

Internal Medicine
JOHN P. LYNCH, M.D.
WM. H. HARRIS, JR., M.D.
JOHN B. CATLETT, M.D.
ROBERT W. BEDINGER, M.D.
ALICE VIRGINIA THORPE, M.D.
DAVID L. LITCHFIELD, M.D.

General Surgery and Gynecology
WEBSTER P. BARNES, M.D.
JOHN H. REED, JR., M.D.
JOSEPH W. COXE III, M.D.
H. FAIRFAX CONQUEST, M.D.
GILBERT H. BRYSON, M.D.

Neurology
RAYMOND A. ADAMS, M.D.

Orthopedic Surgery
JAMES T. TUCKER, M.D.
BEVERLEY B. CLARY, M.D.
JAMES B. DALTON, JR., M.D.
EARNEST B. CARPENTER, M.D.
FRANKLIN P. WATKINS, M.D.
ERNEST L. CLEMENTS, M.D.

Urology
AUSTIN I. DODSON, JR., M.D.
J. EDWARD HILL, M.D.
WILLIAM T. STUART, JR., M.D.

Bronchoscopy
GEORGE AUSTIN WELCHONS, M.D

Radiology and Isotope Medicine
HENRY S. SPENCER, M.D.
DONALD E. SEIM, M.D.

Pathology
J. H. SCHERER, M.D.

Anesthesiology
HETH OWEN, JR., M.D.
WILLIAM B. MONCURE, M.D.
BEVERLY JONES, M.D.
BOYD H. MAY, M.D.

Administrator
WILLIAM D. GIBSON, M.H.A.
Secretary-Treasurer

ALL ROOMS AIR CONDITIONED
Free Parking for Patrons

TUCKER HOSPITAL Inc.

212 West Franklin Street

Richmond, Virginia

A private hospital for diagnosis and treatment of psychiatric and neurological disorders. Hospital and out-patient services.

James Asa Shield, M.D.
George S. Fultz, Jr., M.D.
Catherine T. Ray, M.D.
Weir M. Tucker, M.D.
Edward W. Gamble, III, M.D.
Gerald W. Atkinson, M.D.

Richmond Eye Hospital
Richmond Ear, Nose and Throat Hospital

408 North 12th Street
Richmond, Virginia 23219

An Independent Specialized Non-Profit Community Hospital Dedicated to the Treatment and Cure of Eye, Ear, Nose and Throat Diseases and Disorders.

Professional care offered a limited number of indigent patients.

Direct inquiries to John H. Tobin, Jr., Administrator

408 N. 12th Street, Richmond, Virginia

DOCTORS:

ADMINISTRATORS:

Terrace Hill Nursing Home Is a Fully Accredited Extended Care Facility

Within 9 minutes from any local hospital

- **Post Hospital Nursing Care**
- **Round the Clock Skilled Care**
- **Sprinkler System, Fire Protected**
- **R.N. Supervision** • **Activities**
- **Trained Dietitian** • **Male Orderlies**

State and City Health Depts. Approved

View Showing Park-like Grounds of Terrace Hill Nursing Home

In compliance with the Civil Rights Act of 1964

Patients under care of their own Physicians

Neal L. Maslan, M.P.H.

Administrator

"Understanding Care"

Member: + Va. Nursing Home and American Nursing Home Assns.

TERRACE HILL NURSING HOME, INC.

2112 MONTEIRO AVENUE RICHMOND, VIRGINIA 23222 643-2777

Member

Where
Doctors
Get Away
From It All
Without Going Far

WHAT other Virginia resort offers so many amenities for so few guests? Never a crowd—only 57 rooms, for country-estate atmosphere. . . Old Mill Room for candlelight dining in actual historic grist mill . . . King James Room for select meetings, private parties . . . Choice rooms have fireplace, private balcony, hand-hewn beams, mountain view, handcrafted furnishings.

New challenging short golf course opening April 1967 . . . All weather tennis courts . . . Lighted putting green . . . Pool . . . Two lakes for fishing . . . Riding, 18-hole golf arranged . . . Footpaths for strolling . . . Sauna . . . Private club (short memberships) on premises.

THE BOAR'S HEAD INN

CHARLOTTESVILLE, VIRGINIA

For reservations, brochure, phone 296-2181

Perhaps there have been times when you wanted to prescribe erythromycin and triple sulfas for little patients. Now you can—with a choice of two new fine-tasting pediatric forms.

New–Two Pediatric Forms of Erythromycin and Triple Sulfas

ERYTHROCIN®-SULFAS Chewable (Erythromycin ethyl succinate-trisulfapyrimidines chewable tablet)

In clinical trials[1,2], this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

A clinical cure rate of 94.5%

ERYTHROCIN®-SULFAS Granules (Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated[1,2]—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

701358

A clinical cure rate of 97.7%

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.

ABBOTT

Brief Summary on next page

ERYTHROCIN®-SULFAS
Brief Summary

Contraindications: Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

Warnings: As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

Precautions, Side Effects: Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steriods, etc.) should be administered and the drug withdrawn.

Adverse Reactions: Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

Supplied: The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.

ABBOTT

701358

One by one the family's downed Because the G.I. bug's around

Parepectolin for quick relief of acute diarrhea
...soothes colicky pain with paregoric*
...consolidates fluid stools with pectin
...adsorbs irritants with kaolin, and protects intestinal mucosa

Whether it's a 24-hour "bug", a food problem, or simply nervousness and anxiety, Parepectolin will bring the diarrhea under control until etiology can be determined. In some cases, Parepectolin may be all the therapy necessary.

Parepectolin®

Each fluid ounce of creamy white suspension contains:
*Paregoric (equivalent) ..... (1.0 dram) 3.7 ml.
Contains opium (¼ grain) 15 mg. per fluid ounce.
warning: may be habit forming
Pectin ..... (2½ grains) 162 mg.
Kaolin (specially purified) .... (85 grains) 5.5 Gm.
(alcohol 0.69%)
Usual Adult Dose: One or two tablespoonfuls three times daily.
Usual Children's Dose: One or two teaspoonfuls three times daily.

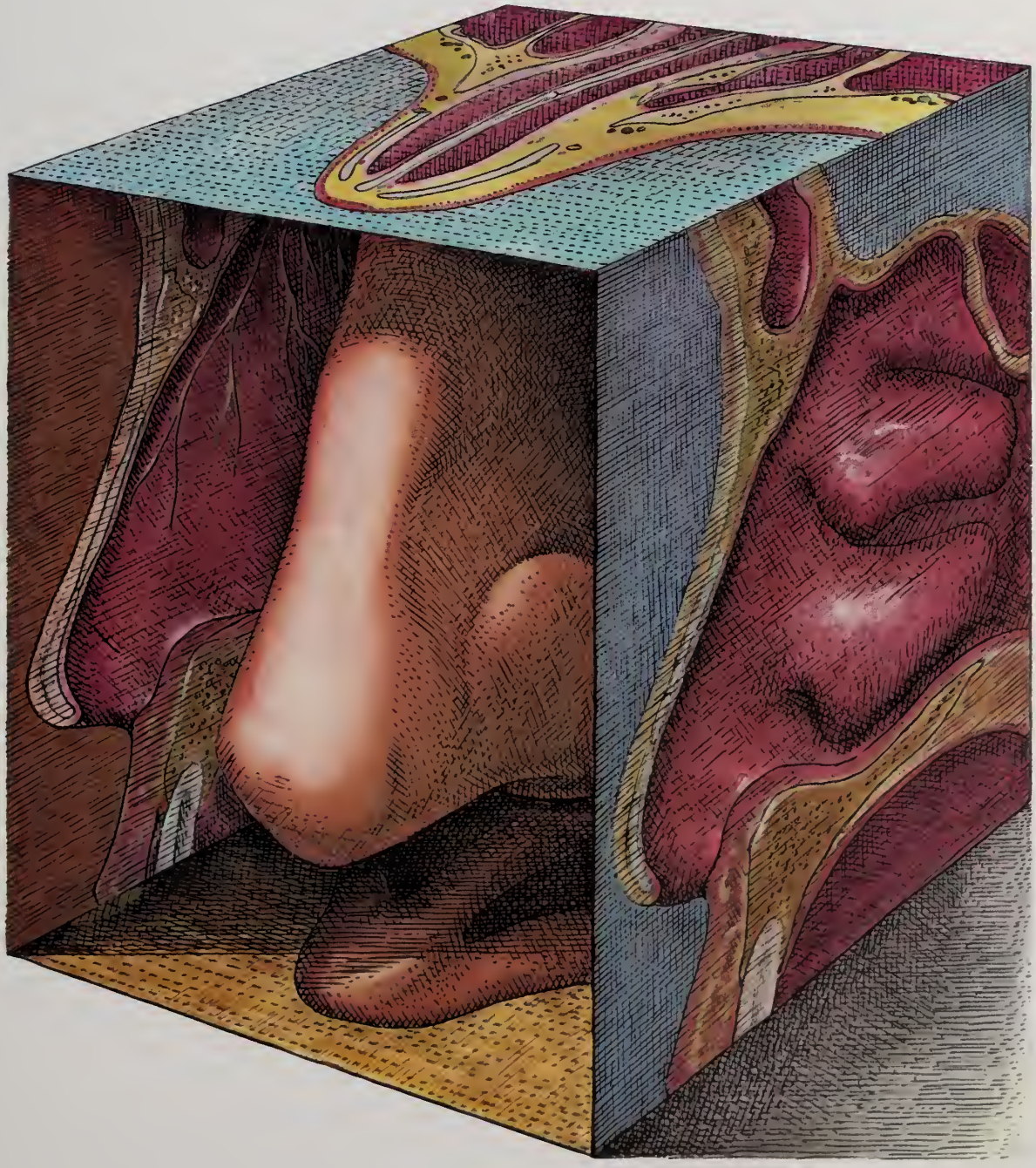
ROREER

WILLIAM H. RORER, INC.
Fort Washington, Pa.

spring 1967

DORSEY Season

A journal within a journal published quarterly in the interests of better medicine by Dorsey Laboratories, a division of The Wander Company, Lincoln, Nebraska. Address communications to Raymond C. Pogge, M.D., Director of Medicine.



this issue: the ubiquitous world of summer allergies

the ubiquitous world of summer allergies

Donald L. Unger, M.D. • Clinical Assistant Professor, Department of Medicine (Allergy), Stritch School of Medicine (Loyola).

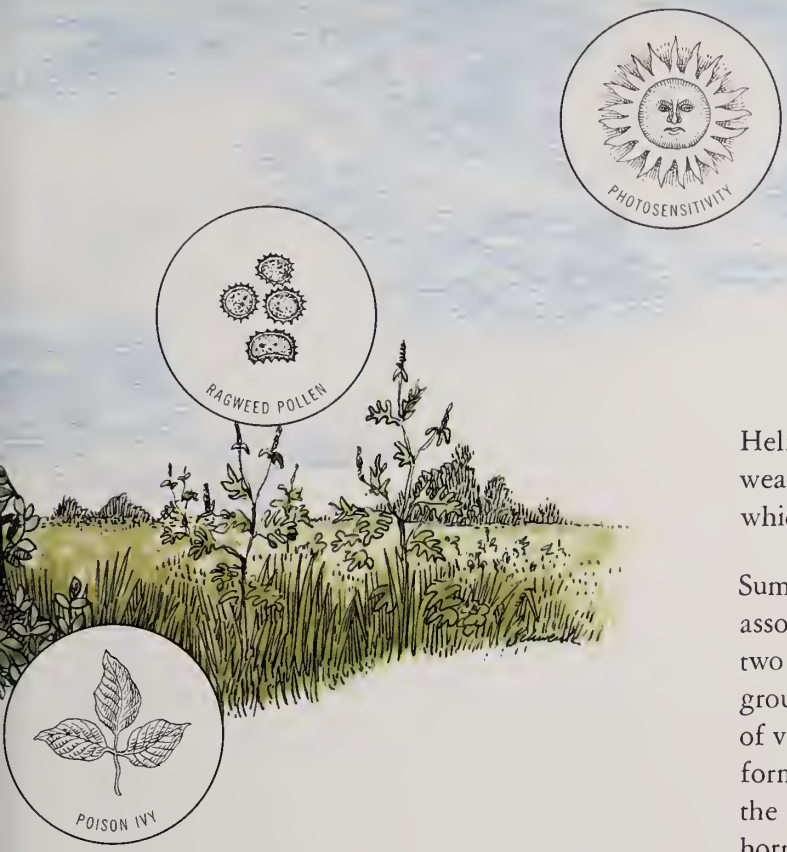
In the Spring a young man's fancy lightly turns to thoughts of—allergies. This is at least true of the 10% of the population who have hay fever and the 4% who have asthma.[1] The snow melts, the trees blossom and the noses run. Patients who were fine all winter may not be enthralled by the sight of the first robin or the blossoming of a crocus, for their appearances may precede the "sneezin' season."

Allergies in general can be divided into winter allergies and summer allergies. In the winter the main problems are inside the house: e.g. dogs, cats, dust and feathers. Houses in the northern half of the country become so dry that it becomes essential to add humidity to the home; this is a far cry from the damp summer months with the moldy basements and need for dehumidifiers.

Early in April trees begin to pollinate, with each tree having about a two week period of pollination. A particular patient may be sensitive to only one tree and thus have his hay fever for such a short time that he thinks he has a cold.[2] The entire tree season starts about April 1 and ends about Memorial Day, although all hay fever seasons are blurred and prolonged in the southern part of the country. Tree pollen is usually very heavy and a person may well have most of his exposure from those trees immediately surrounding his home.

Grasses pollinate from about May 15 until July 4, and cause "rose fever." Grass pollens are somewhat lighter and more buoyant than tree pollens, and are much more ubiquitous. While there are several varieties of grasses in the United States, they are so closely related antigenically that a person sensitive to one is generally sensitive to them all.[3] Thus, while the tree season is really several small seasons intertwined, the grass season will usually result in symptoms for a more prolonged period. Obviously, a grass-sensitive patient will have trouble only when grass is pollinating—he will have to think of another excuse not to mow the lawn after July 4.

Ragweed is the "Big Daddy" of them all in the eastern two-thirds of the country. Pollination is generally from mid-August until the end of September, with the predicted lower counts and longer seasons



in the southern part of the country. Ragweed is a very light pollen which may be windborne for hundreds of miles. An interesting study was made in New York City, in which 90% or more of the ragweed plants were destroyed in three of the five boroughs; pollen counts done during the season were virtually identical in all five.[4]

Ragweed is, of course, the most common cause of hay fever and is associated with an incredible loss of man hours from work each year. Many is the patient who travels to areas where the pollen count is low, just to avoid having symptoms. There is no ragweed anywhere in the world except the United States and portions of Canada and Mexico.

While molds are present through the year, the most important ones predominate from April until November. An old wives' tale has ragweed ending with the first frost, when actually it ends a good month earlier. It is Alternaria—the kingpin of the molds—that meets a sudden demise with the first frost. Alternaria-sensitive patients are in their glory when there is snow on the ground, and might be ideally suited to man the radar stations in Alaska. In September and October, Alternaria counts are at their highest, perhaps associated with the burning of leaves. Other molds such as Hormodendrum and Helminthosporium are associated with the warmer weather, as opposed to Penicillium and Aspergillus which are household molds.

Summer also means the return of our much maligned associates—bugs. Insects cause allergic symptoms by two methods: the bite or sting of the Hymenoptera group, and the inhalation of particles of the bodies of various insects. Wasp stings are the oldest known form of allergy, as they caused the death of one of the pharaohs in ancient Egypt.[5] Bees, wasps and hornets account for many deaths in this country, and those sensitive to them should carry special treatment kits at all times; a few minutes delay in the administration of epinephrine to such a patient, might be the difference between life and death. Inhalation of particles of insects may cause sneezing and wheezing in a susceptible individual.[6] Both of these forms of insect allergy may be benefitted by hyposensitization.

The insect recognizes no professional bounds. He is as apt to bite the physician as the patient. So this season, beware of bugs. And beware, too, of poison ivy. That pleasant stroll through the woods and underbrush with the Boy Scouts might turn into a

(Concluded on following page)

to relieve summer allergies

Triaminic®

Each timed-release tablet contains phenylpropanolamine hydrochloride 50 mg., pheniramine maleate 25 mg. and pyrilamine maleate 25 mg.

It's a comforting thing to know

For product information see following page

(Advertisement)

nightmare for the botanically uninitiated in the causes of rhus dermatitis (poison ivy, poison oak and poison sumac). Although you may have been careful, your dog may not have noted that it wasn't clover he jumped through, but poison ivy. His return to your side may give you the rhus dermatitis that you so carefully avoided. That heavenly campfire may be emitting particles of rhus oil to produce an airborne contact dermatitis of the exposed areas of the body.

Another fascinating, but rather infrequent type of summer allergy is physical allergy. Some people sneeze on exposure to sunlight, while others break out in rashes, usually on the exposed parts of the body. These rashes may well follow the administration of various photosensitizing drugs, e.g. demethylchlortetracycline.[7] Another form of physical allergy and one that may be lethal in the summer, is cold allergy. Yes, I mean cold allergy, not heat allergy. The cool dip on a hot day with its consequent sudden chilling of the body, may be the coup de grace for a cold sensitive patient.[8] It is customary to write "heart attack" on the death certificate, even though the victim may have been an 18-year-old boy who looks like a Greek god.

Lest the reader be depressed by this saga of afflictions associated with the warmer months, perhaps he should remember that it is also a time for swimming, baseball, lying in the sun and taking that long-planned vacation. So let's all join in a chorus of "In the Good Old Summertime," as we sneeze, wheeze and scratch. Be careful of your suntan lotion, however; it may cause you a contact dermatitis.

References 1. Unger, L.: Bronchial asthma. Charles C. Thomas Co. p. 47, 1946. 2. Samter, M.: Immunological diseases. Little, Brown and Co. p. 513, 1965. 3. Wodehouse, R. P.: Antigenic analysis by gel diffusions: 2. Grass pollen. Int. Arch. Allerg. **6**:65, 1955. 4. Cohart, E. M., and Kandle, R. P.: The Effects of a ragweed control program on ragweed pollen counts, J. Allergy **30**:287, 1959. 5. Woddell, L. S.: Egyptian civilization: Its origin and real chronology and Sumerian origin of Egyptian hieroglyphics. London: Luzak & Co. 1930. 6. Parlato, S. J.: The sandfly (Caddis fly) as an exciting cause of allergic coryza and asthma: II. Its relative frequency. J. Allergy **1**:307, 1930. 7. Ozere, R. L.: Demethylchlortetracycline photosensitivity. Canad. M. A. J. **85**:1199, 1961. 8. Horton, B. T., Braun, G. E., and Roth, G. M.: Hypersensitiveness to colds, JAMA **107**:1263, 1936.

How can he be a sport with a runny nose?

For summer allergies, summer colds, or nasal congestion due to almost any cause, you prescribe quick r-e-l-i-e-f with Triaminic. It's ideal for summer allergies:

1. Acts in 15-30 minutes due to decongestant.
2. Follows up with balanced dual antihistamines.
3. Up to 24-hour 'round the clock relief when dosed one tablet at morning, mid-afternoon and evening.

Summer time is sport time and who can be a sport with a runny nose?

provide patient comfort

Triaminic® relieves summer allergies

Each timed-release tablet contains:

Phenylpropanolamine hydrochloride	50 mg.
Pheniramine maleate	25 mg.
Pyrilamine maleate	25 mg.

Side effects: Occasional drowsiness, blurred vision, cardiac palpitation, flushing, dizziness, nervousness or gastrointestinal upsets.

Precautions: The patient should be advised not to drive a car or operate dangerous machinery if drowsiness occurs. Use with caution in patients with hypertension, heart disease, diabetes or thyrotoxicosis.

(Advertisement)

Photo professionally posed

Mike expects a penicillin injection. He's about to be pleasantly surprised.

His physician is going to prescribe an oral penicillin —PEN•VEE® K (potassium phenoxymethyl penicillin). It's usually so rapidly and completely absorbed that therapeutic serum levels are produced in 15 to 30 minutes. Higher serum levels generally last longer than with oral penicillin G.

Indications: Infections due to pathogens susceptible to oral penicillin G. Prophylaxis of rheumatic fever in patients with previous history of the disease.

Precautions: Skin rash, symptoms resembling those of serum sickness, or other manifestations of penicillin-allergy may occur. Measures for treating anaphylaxis should be readily available: epinephrine, oxygen and pressor drugs for relief of immediate allergic reactions; antihistamines and corticosteroids for delayed effects. Penicillin may delay or prevent the appearance of primary syphilitic lesions. Patients with gonorrhea who are suspected of concurrent syphilitic infections should be tested serologically for at least 3 months. Where lesions of primary syphilis are suspected, dark-field examination should precede use of penicillin. As with other antibiotics overgrowth of nonsusceptible organisms may occur; if so, discontinue and take appropriate measures. Treat β-hemolytic streptococcal infections with full therapeutic dosage for at least 10 days to prevent development of rheumatic fever or glomerulonephritis.

Contraindications: Infections caused by nonsusceptible organisms; history of penicillin sensitivity.

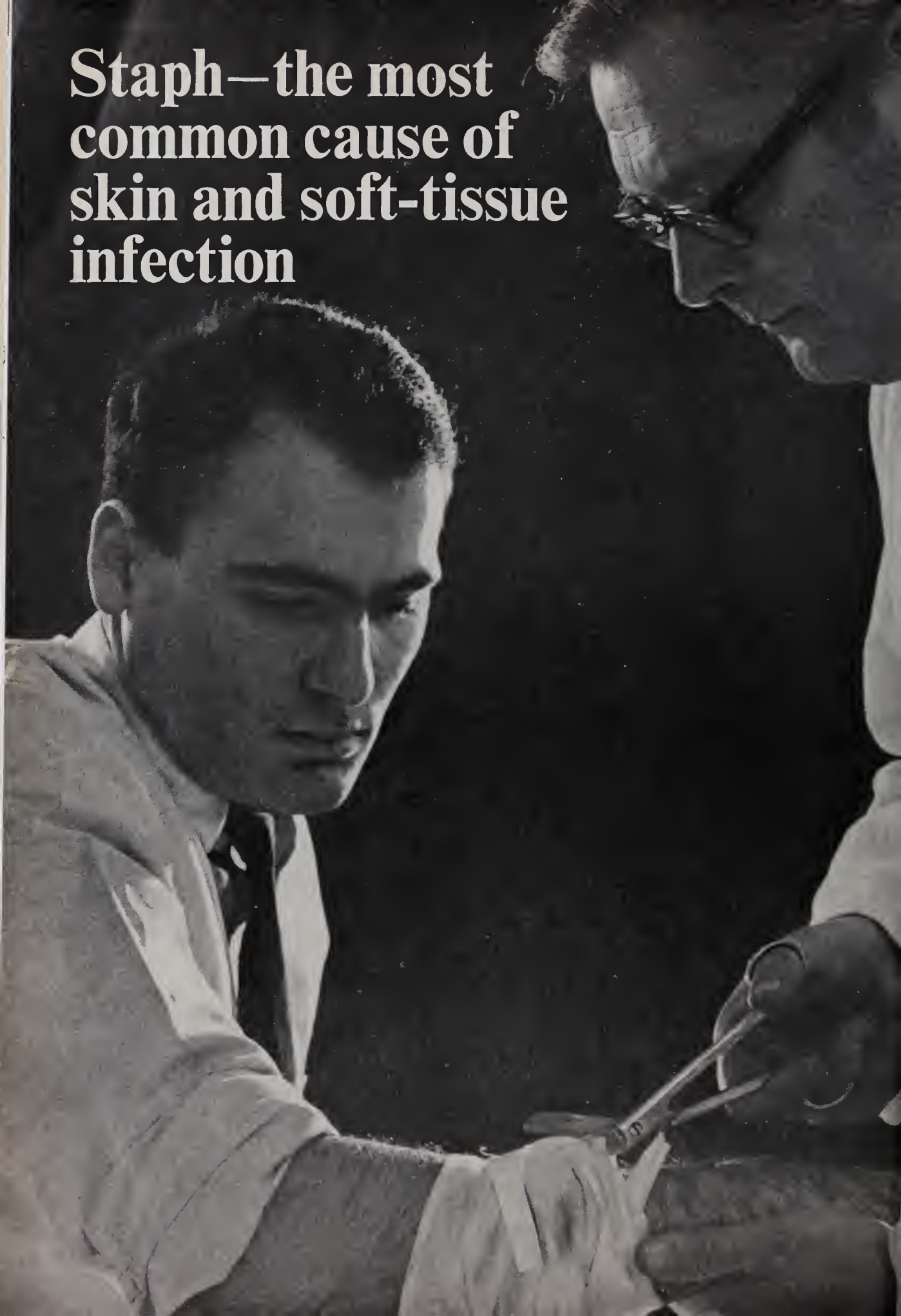
Composition: Tablets—125 mg. (200,000 units) and 250 mg., (400,000 units); Liquid—125 mg. (200,000 units) and 250 mg. (400,000 units) per 5 cc.

Wyeth Laboratories Philadelphia, Pa.

ORAL **PEN•VEE® K**

(potassium phenoxymethyl penicillin) Wyeth®

Staph—the most common cause of skin and soft-tissue infection



reliably controlled with specific therapy

A suitable dosage form for every staph situation

Staph—the most common cause of skin and soft-tissue infection—also is responsible for many more serious infections, such as pneumonia, osteomyelitis, and septicemia. Often, a seemingly minor skin infection is the source of metastatic spread to deeper structures. When findings on culture incriminate staph as the cause, Prostaphlin (sodium oxacillin) will provide specific effective therapy.

Bactericidal effectiveness. Hardly a staph organism can resist the bactericidal action of Prostaphlin (sodium oxacillin), as shown by a 34-month *in vitro* study. Of all staph isolates tested, 99.5% were sensitive to oxacillin.[1]

Clinically proven. There is a high correlation between these *in vitro* findings and clinical results. Of 610 patients treated with Prostaphlin (sodium oxacillin), 89.8% were reported cured or improved, including those with staph infections resistant to penicillin G.[2] And since resistance does not appear to develop *in vivo*, therapy with oxacillin can be extended when necessary.

Outstanding safety record. Besides being staph-specific and rapidly absorbed—Prostaphlin (sodium oxacillin) has established an outstanding record of safety during five years of widespread clinical use. Continuous high blood levels of oxacillin have not produced toxic effects on kidney function, assuring a significant margin of safety. However, as with all penicillins, the possibility of allergic response should be considered.

Capsules, Oral Solution and Injectable. Prostaphlin (sodium oxacillin) is available in three flexible dosage forms to suit the age of the patient and severity of infection—capsules, an oral solution for pediatric use, and multi-dose vials for injection, I.M. or I.V.

PRESCRIBING INFORMATION: For complete information, consult Official Package Circular. *Indications:* Infections caused by Staphylococci, particularly those due to penicillin G-resistant Staphylococci. *Contraindications:* A history of severe allergic reactions to penicillin. *Precautions:* Typical penicillin-allergic reactions may occur. Safety for use in pregnancy and premature infants is not established. Because of limited experience, use cautiously and evaluate organ system function frequently in neonates. Mycotic or bacterial superinfections may occur. Assess renal, hematopoietic and hepatic function intermittently during long-term therapy. *Adverse Reactions:* Skin rashes, pruritus, urticaria, eosinophilia, nausea, vomiting, diarrhea, fever and occasional anaphylaxis. Rare cases of reversible hepatocellular dysfunction have occurred. Moderate SGOT elevations have been noted. Thrombophlebitis has occurred occasionally during intravenous therapy and leukopenia was noted in two cases. *Usual Oral Dosage:* Adults: 500 mg. *q.4* or *q.6h.* Children: 50 mg./Kg./day. *Usual Parenteral Dosage:* Adults: 250-500 mg. *q.4* or *q.6h.* Children: 50 mg./Kg./day. Treat beta-hemolytic streptococcal infections for at least 10 days. Give oral drug 1 to 2 hours before meals. *Supplied:* Capsules—250 and 500 mg. in bottles of 48. Injectable—250 mg., 500 mg., and 1 Gm. dry filled vial for I.M./I.V. use. For Oral Solution—100 ml. bottle, 250 mg./5 ml. when reconstituted. **A.H.F.S. CATEGORY: 8:12.6**

References: 1. Abstracted from *Antibiotic Sensitivity of Staphylococci Studied from November 1962 through August 1965*, reported by Griffith, L.J., Staphylococcus Reference Laboratory, V. A. Hospital, Batavia, N.Y. 2. Data on file, Bristol Laboratories.

BRISTOL

BRISTOL LABORATORIES/Division of Bristol-Myers Co., Syracuse, N.Y.

Whenever you suspect staph PROSTAPHLIN®

SODIUM OXACILLIN

Whenever the diet is faulty, the appetite poor, or the loss of food is excessive

through vomiting or diarrhea—

Valentine's
MEAT EXTRACT

stimulates the appetite,

increases the flow of digestive juices,

provides: supplementary amounts of vitamins, minerals and soluble proteins,

extra-dietary vitamin B_{12},

protective quantities of potassium, in a palatable and readily assimilated form.

Supplied in bottles of 2 or 6 fluidounces.

DOSAGE *is 1 teaspoonful two or three times daily; two or three times this amount for potassium therapy. Dilute with two or more equal volumes of water.*

VALENTINE Company, Inc.
RICHMOND 21, VIRGINIA

Tandearil®
oxyphenbutazone

Therapeutic Effects: Tandearil is a nonhormonal compound which may rapidly resolve inflammation and help restore normal joint function. Its action does not affect pituitary-adrenal function or impair immune responses. Its value in osteoarthritis is especially noteworthy because this disorder responds inconsistently to steroids and is often resistant to salicylates. Further, indomethacin is limited only to osteoarthritis of the hip, whereas oxyphenbutazone is effective in all forms of the disease.

Contraindications: Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently.

Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

Precautions: Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage. Make regular blood counts. Discontinue the drug and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

Adverse Reactions: The most common are nausea, edema and drug rash. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

Dosage in Osteoarthritis: The initial daily dosage in adults is 300-600 mg. in divided daily doses. When improvement occurs, dosage should be decreased to the minimum effective level; this should not exceed 400 mg. daily, and is often achieved with only 100-200 mg. daily.

For complete details, please refer to full prescribing information. 6562-VI(B)R

Availability: Tablets of 100 mg.

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York

Geigy

Tandearil®
oxyphenbutazone

helps osteoarthritic joints move again

	3 out of 4 osteoarthritics completely or markedly improved
Sperling, I.L.: 3 Years' Experience with Oxyphenbutazone in the Treatment of Rheumatic Disorders, Applied Therapeutics 6:117, 1964.	76.9% of 407 patients
Watts, T.W., Jr.: Treatment of Rheumatoid Disorders with Oxyphenbutazone, Clin. Med. 73:65, 1966.	84.6% of 39 patients

Please see adjoining page for brief prescribing summary.

TA-4919 PC

Since 1880

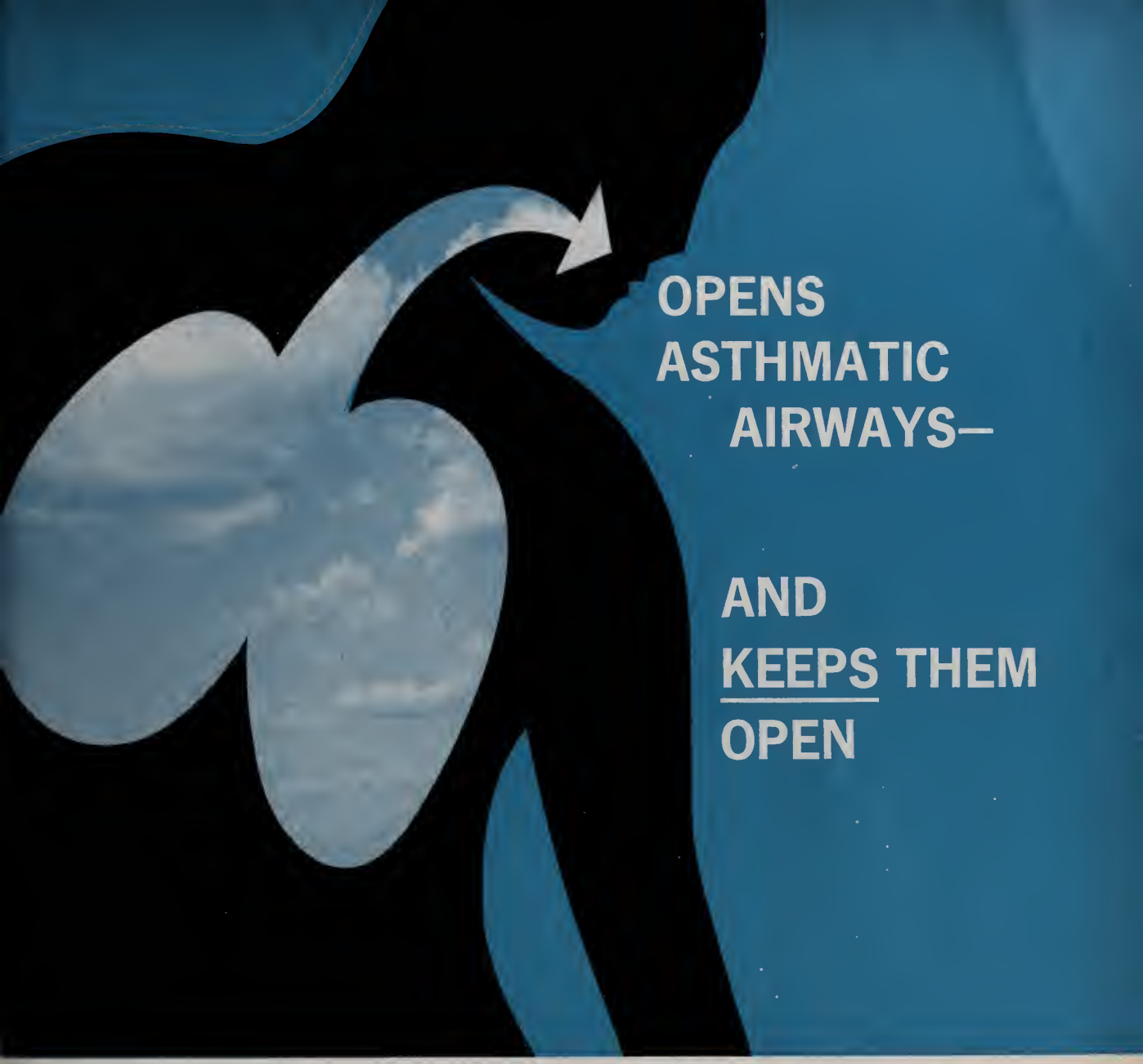
Service with Satisfaction

THE WILLIAMS PRINTING COMPANY

RICHMOND, VIRGINIA 23219

INDEX TO ADVERTISERS

Abbott Laboratories ---- 23-28, 74-76
American Medical Association ---- 61
Ames ---- 45
Appalachian Hall ---- 59
Bayberry Psychiatric Hospital ---- 70
Blue Cross-Blue Shield ---- 29
Boar's Head Inn ---- 73
Bristol ---- 82-83
Burroughs Wellcome & Co. ---- 64
Coca-Cola ---- 64
Clay's Rest Home ---- 62
Dorsey ---- 77-80
Dyer, David A., Insurance ---- 8-9
Eli Lilly and Co. ---- 12-13, 42-44, 48, 54-56
Geigy ---- 84-85
Gill Memorial ---- 60
Glenbrook ---- 11
Health-Mor, Inc. ---- 15-17
Highland Hospital ---- 70
Hynson, Westcott & Dunning, Inc. ---- 3
Jefferson, A. G. ---- 36
Johnston-Willis Hospital ---- 62
Jones and Vaughan ---- 7
Lakeside Laboratories ---- 63
Lederle Laboratories ---- 38, 39, 49, 68-69
Medicine in Virginia ---- 36
Wm. S. Merrell Company ---- 34-35
National Dairy Council ---- 10
Parke, Davis & Company ---- Second Cover
Peoples Service Drug Stores ---- 14
Pitman-Moore ---- 50-51
Plyler's Nursing Home, Mrs. ---- 71
Poythress, William P., & Co. ---- 36
Richmond Eye Hospital—Richmond Ear, Nose and Throat Hospital ---- 72
Riverside Convalescent Home ---- 62
Robins, A. H. ---- 37, 53
Roche Laboratories ---- 66-67, Back Cover
Roerig ---- 65
Rorer, William H., Inc. ---- 6, 76
Saint Albans Psychiatric Hospital ---- 60
Searle, G. D. & Co. ---- 40-41
St. Elizabeth's Hospital ---- 58
St. Luke's Hospital ---- 71
St. Paul Insurance ---- 22
Stuart Company ---- 32
Stuart Circle Hospital ---- 59
Syntex Laboratories ---- 18-21, 88, Inside Back Cover
Terrace Hill Nursing Home ---- 73
Tucker Hospital, Inc. ---- 72
Valentine Company, Inc. ---- 84
Westbrook Psychiatric Hospital ---- 58
Williams Printing Co. ---- 86
Winthrop Laboratories ---- 5
Wyeth Laboratories ---- 30-31, 46-47, 81
Wynn Pharmaceuticals ---- 33, 87



NUMA® DURA-TABS®

for *prolonged* aid to ventilation

Each Numa Dura-Tab provides:

theophylline	225 mg.
ephedrine HCl	50 mg.
butabarbital	25 mg.

(Warning: butabarbital may be habit-forming.)

Numa Dura-Tabs provide *prolonged* three-way action to ease breathing. Theophylline, a potent bronchodilator with minimal effect on the CNS, opens air passages and reduces bronchial spasm. Ephedrine HCl improves breathing capacity through its decongestant action. Butabarbital, a mild sedative, allays fear and apprehension.

Dosage: One Numa Dura-Tab every 8 to 12 hours helps keep the asthmatic patient symptom-free all day/all night.

Precautions: Use with caution in cardiovascular or hyperthyroid disease, severe hypertension, circulatory collapse, prostatic hypertrophy, or glaucoma.

WYNN Pharmaceuticals, Inc. Phila., Pa. 19132 • Manufacturers of QUINAGLUTE® DURA-TABS®

(quinidine gluconate 5 gr.)

announcing
important dosa
reduction

new **Nor**

(norethindrone 1mg. c̄ mestranol 0.05

lower cost
to patients

nyl®-1
tablets

norethindrone — an original steroid from
SYNTEX
LABORATORIES INC., PALO ALTO, CALIF.

bing information available from your pharmacist or Syntex representative.

For the tense patient 1 tab

t.i.d.

who can't slee

h.s

remember th
extra tablet at bedtim

Valium
(diazepam
Roche®

Before prescribing, please consult complete product information, a summary of which follows:
Contraindications: Infants, patients with history of convulsive disorders or glaucoma.
Warning: Not of value in the treatment of psychotic patients, and should not be employed in lieu of appropriate treatment.
Precautions: Limit dosage to smallest effective amount in elderly patients (not more than 1 mg, one or two times daily) to preclude ataxia or oversedation. Advise patients against possibly hazardous procedures until correct maintenance dosage is established; driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. Warn patients of possible combined effects with alcohol. Safe use in pregnancy not established. Observe usual precautions in impaired renal or hepatic function and in patients who may be suicidal; periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

Side Effects: Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances, hallucinations); changes in EEG patterns. Abrupt cessation after prolonged overdosage may produce withdrawal symptoms similar to those seen with barbiturates, meprobamate and chlordiazepoxide HCl.
Dosage—Adults: Mild to moderate psychoneurotic reactions, 2 to 5 mg b.i.d. or t.i.d.; severe psychoneurotic reactions, 5 to 10 mg t.i.d. or q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; muscle spasm with cerebral palsy or athetosis, 2 to 10 mg t.i.d. or q.i.d. Geriatric patients: 1 or 2 mg/day initially, increase gradually as needed.
Supplied: Tablets, 2 mg, 5 mg and 10 mg; bottles of 50 for convenience and economy in prescribing.

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc
Nutley, N.J. 07110

DUPLICATE
SERIES

VIRGINIA MEDICAL MONTHLY

PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

Whether the allergen is greenish or garish, unseen or unknown, your patient can get symptomatic relief with BENADRYL—the potent antihistamine with antispasmodic action. *INDICATIONS:* Antihistaminic, antispasmodic, antitussive, and antiemetic therapy. *PRECAUTIONS:* Persons who have become drowsy on this or other antihistamine-containing drugs, or whose tolerance is not known, should not drive vehicles or engage in other activities requiring keen response while using this product. Hypnotics, sedatives, or tranquilizers if used with diphenhydramine hydrochloride should be prescribed with caution because of possible additive effect. Diphenhydramine has an atropine-like action which should be considered when prescribing diphenhydramine hydrochloride. *ADVERSE REACTIONS:* Side effects are generally mild and may affect the nervous, gastrointestinal, and cardiovascular systems. Drowsiness, dizziness, dryness of the mouth, nausea, nervousness, palpitation, blurring of vision, vertigo, headache, muscular aching, thickening of bronchial secretions, restlessness, and insomnia have been reported. Allergic reactions may occur.

BENADRYL is available in Kapseals® of 50 mg. and Capsules of 25 mg.

00867

The pink capsule with the white band is a trademark of Parke, Davis & Company.

PARKE-DAVIS

Lutrexin®

HW&D BRAND OF LUTUTRIN

3000 UNIT TABLETS

IN THE TREATMENT OF FUNCTIONAL DYSMENORRHEA ND SELECTED CASES OF PREMATURE LABOR AND 2ND AND 3RD TRIMESTER THREATENED ABORTION

In controlling abnormal uterine activity, LUTREXIN, the non-steroid "uterine relaxing factor" has been found to be the drug of choice by many clinicians.

No side effects have been reported, even when massive doses (25 tablets per day) were administered.

Literature on indications and dosage available on request.

Supplied in bottles of twenty-five 3,000 unit tablets.

HYNSON, WESTCOTT & DUNNING, INC.

BALTIMORE, MARYLAND 21201

(LTR22)

in vivo measurement of LUTREXIN (Lututrin) on contracting uterine muscle

VIRGINIA MEDICAL MONTHLY

(Founded by Landon B. Edwards, M.D., April, 1874)

PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF VIRGINIA

4205 DOVER ROAD, RICHMOND, VIRGINIA 23221

EDITORIAL BOARD

HARRY J. WARTHEN, M.D.
Chairman and Editor

H. LAMONT PUGH, M.D.
Vice Chairman

C. V. CIMMINO, M.D.

CHARLES E. DAVIS, JR., M.D.

J. SHELTON HORSLEY, III, M.D.

GORDON W. JONES, M.D.

WILLIAM H. KAUFMAN, M.D.

JOHN A. MARTIN, M.D.

ROBERT MITCHELL, JR., M.D.

JAMES M. MOSS, M.D.

W. T. THOMPSON, JR., M.D.

E. SPENCER WATKINS
Managing Editor
4205 Dover Road
Richmond, Virginia 23221

Annual Subscription—$2.00
Single Copies—25¢

TABLE OF CONTENTS

GUEST EDITORIAL
From Atelectasis to Emphysema—*Basil B. Jones, M.D* 271

ORIGINAL ARTICLES
Dermoid Cysts of the Nose in Children—*Charles E. Horton, M.D., Jerome E. Adamson, M.D., Hugh H. Crawford, M.D.,* and *Leonard H. Brown, M.D.* 274
Handling Personal, Confidential Information—*James P. King, M.D.* 279
Pilonidal Cyst Arising in the Clitoris—*Robert E. Harris, M.D.,* and *James W. Daly, M.D.* 281
Emphasis—Fibrinolysin—*Richard F. Bunting, M.D.,* and *M. K. Humphries, M.D.* 284
Noise in Industry—*M. M. Mackay, M.D.* 288
The Changing Environment of Medical Practice 293

CLINICOPATHOLOGICAL CONFERENCE
Complications of Heart Valve Prosthesis 298

PUBLIC HEALTH
Institute on Control of Hospital Infections 309

MENTAL HEALTH
Department of Mental Hygiene and Hospitals—*Julian C. Houseman* 311

DIAGNOSTIC LABORATORY MEDICINE
Etiology of Meningitis at the Medical College of Virginia 1961-1965—*M. J. Allison, Ph.D.,* and *H. P. Dalton, Ph.D.* 317

THE PRESIDENT'S PAGE 320

EDITORIAL
Look and The Big Lie—*Harry J. Warthen, M.D.* 321
VaMPAC: Past and Future—*James M. Moss, M.D.* 323

NEWS 325

OBITUARIES 327

The MONTHLY is not responsible for the opinions and statements of its contributors.
All advertisements are accepted subject to the approval of the Editorial Board.

Second Class Postage paid at Richmond, Virginia.

INDEX TO ADVERTISERS—Page 74

Diagnosis:

cystitis?
pyelonephritis?
pyelitis?
urethritis?
prostatitis?

in any case,
usually gram-negative*

Therapy:

two 500 mg. Caplets® q.i.d.
(initial adult dose)

NegGram®

Brand of

nalidixic acid

a specific anti-gram-negative

eradicates most urinary tract infections...

- Low incidence of untoward effects; no fungal overgrowth, crystalluria, ototoxic or nephrotoxic effects have been observed.
- "Excellent" or "good" response reported *in more than 2 out of 3* patients with either chronic or acute gram-negative infections.[1]

*As many as 9 out of 10 urinary tract infections are now caused by gram-negative organisms: E. coli, Klebsiella, Aerobacter, Proteus, Paracolon or Pseudomonas[2]. . . However, infections of the urethra and prostate caused by non-gonococcal gram-negative organisms are believed to be less prevalent.

ications: Urinary tract infections caused by gram-negative and some gram-itive organisms.

e effects: Mainly mild, transient gastrointestinal disturbances; in asional instances, drowsiness, fatigue, pruritus, rash, urticaria, mild inophilia, reversible subjective visual disturbances (overbrightness of ts, change in visual color perception, difficulty in focusing, decrease in ual acuity and double vision), and reversible photosensitivity reactions. ked overdosage, coupled with certain predisposing factors, has produced f convulsions in a few patients.

cautions: As with all new drugs, blood and liver function tests are advis-e during prolonged treatment. **Pending further experience, like most motherapeutic agents, this drug should not be given in the first trimester pregnancy. It must be used cautiously in patients with liver disease or ere impairment of kidney function.** Because photosensitivity reactions have urred in a small number of cases, patients should be cautioned to avoid ecessary exposure to direct sunlight while receiving NegGram, and if a ction occurs, therapy should be discontinued. The dosage recommended adults and children should not arbitrarily be doubled unless under the eful supervision of a physician. Bacterial resistance may develop.

en testing the urine for glucose in patients receiving NegGram, Clinistix® gent Strips or Tes-Tape® should be used since other reagents give a e-positive reaction.

age: Adults: Four Gm. daily by mouth (2 Caplets® of 500 mg. four times y) for one to two weeks. Thereafter, if prolonged treatment is indicated, dosage may be reduced to two Gm. daily. Children may be given roximately *25 mg. per pound* of body weight per day, administered in ded doses. The dosage recommended above for adults and children uld not arbitrarily be doubled unless under the careful supervision of a sician. Until further experience is gained, infants under 1 month uld not be treated with the drug.

w supplied: Buff-colored, scored Caplets® of **500 mg. for adults**, conve-ntly available in bottles of 56 (sufficient for one full week of therapy) and in tles of 1000. **250 mg. for children**, available in bottles of 56 and 1000.

ferences: (1) Based on 23 clinical papers, 1512 cases. Bibliography on uest. (2) Bush, I. M., Orkin, L. A., and Winter, J. W., in Sylvester, J. C.: timicrobial Agents and Chemotherapy—1964, Ann Arbor, American ciety for Microbiology, 1965, p. 722.

Winthrop

inthrop Laboratories, New York, N. Y. 10016

OFFICERS AND COUNCILORS OF THE MEDICAL SOCIETY OF VIRGINIA 1966-67

President—K. K. Wallace, M.D., Norfolk
President-Elect—Thomas W. Murrell, Jr., M.D., Richmond
Past-President—Alexander McCausland, M.D., Roanoke
Vice-Presidents—Hugh G. Stokes, M.D., Williamsburg
Francis H. McGovern, M.D., Danville
James M. Moss, M.D., Alexandria
Executive Secretary-Treasurer—Robert I. Howard, Richmond
Speaker of the House—W. Callier Salley, M.D., Norfolk
Vice-Speaker—Thomas S. Edwards, M.D., Charlottesville

COUNCILORS

F. Ashton Carmines, M.D., Newport News
William S. Hotchkiss, M.D., Norfolk
William R. Hill, M.D., Richmond
William Grossmann, M.D., Petersburg
W. Nash Thompson, M.D., Stuart
Harry B. Stone, M.D., Roanoke
Dennis P. McCarty, M.D., Front Royal
W. D. Liddle, M.D., Fredericksburg
W. W. Walton, M.D., Pulaski
Carl P. Parker, M.D., Falls Church

DELEGATES AND ALTERNATES TO THE AMERICAN MEDICAL ASSOCIATION

Delegates

1966-67

W. Linwood Ball, M.D., Richmond
Allen Barker, M.D., Roanoke

1967-68

W. Callier Salley, M.D., Norfolk

Alternates

1966-67

Alexander McCausland, M.D., Roanoke
Russell Buxton, M.D., Newport News

1967-68

Richard E. Palmer, M.D., Alexandria

REPRINT PRICES OF ARTICLES IN THE VIRGINIA MEDICAL MONTHLY

Trim Size: 8 x 11 inches

No. of copies	100	200	250	500	750	1000	1500	2000
1 page	$8.30	$8.90	$9.20	$10.70	$12.20	$13.70	$16.70	$19.70
2 Pages	9.45	10.20	10.60	12.45	14.35	16.20	19.95	23.70
4 Pages	19.85	21.70	22.65	27.25	31.88	36.50	45.75	55.00
8 Pages	47.87	50.15	51.30	57.00	62.70	68.40	79.80	91.20
12 Pages	77.90	82.65	85.05	96.90	108.80	120.65	144.40	168.15
16 Pages	95.74	100.30	102.60	114.00	125.40	136.80	159.60	182.40
Cover	15.20	18.65	20.40	29.00	37.45	46.25	73.50	80.75
Envelope—blank	2.80	5.60	7.00	14.00	21.00	28.00	42.00	56.00
Envelope—printed	7.98	11.16	12.70	20.70	28.60	36.60	52.50	68.40

PRICES F.O.B. RICHMOND, VA.

Orders must be placed before type is distributed.

THE WILLIAMS PRINTING CO.

11-13-15 North 14th Street **Richmond, Virginia 23219**

raldrate

(SYRUP OF CHLORAL HYDRATE)

A palatable chloral hydrate syrup containing 10 grains in each teaspoonful.

J. and V.

JONES and VAUGHAN
Richmond 26, Virginia

DISABILITY INCOME INSURANCE

3 REASONS WHY

If you are disabled by sickness or accident and unable to work, your income stops.

Where do you get the money . . . .

. . **that you normally spend on food?**

. . **that you normally spend on shelter?**

. . **that it takes to maintain your office?**

There is no question how your income will continue if you enroll in the DISABILITY INCOME PLAN which is sponsored and recommended by THE MEDICAL SOCIETY OF VIRGINIA.

With these outstanding features:

✓ Benefits paid directly to you. You spend the money any way you want;

✓ This plan is yours until age 75; (Plan A or Plan B)

✓ Under Plan A—Benefits paid to age 65 for sickness—lifetime for accident.

As an example: If you were disabled at Age 50 it would be possible for you to collect $144,000.00 (15 years at $800.00 per month)—NOT 5 years. At younger ages the amount possible to collect is much greater.

Protect your earnings and ability to pay. Get complete details during the Open Enrollment Period—now in progress.

Mail to

David A. Dyer Insurance Agency
Medical Arts Building
Roanoke, Virginia 24011

Dave,

I have enough problems without having to worry about how I'll pay the rent, the grocery bills, or keep the office open if I'm disabled. Please rush to me, without obligation, all the facts on the Disability Income Program for physicians and surgeons, underwritten by Insurance Company of North America, Phila., Pa.

Name _____

Address _____
Street

_____
(City) (State) (Zip)

Underwritten by The Insurance Company of North America, Philadelphia, Pa.

when was your last check-up?

Have YOU failed to make certain that you're well protected from the high costs of accident and sickness? If so, your budget is in danger of shattering any day now.

THE MEDICAL SOCIETY OF VIRGINIA has just the thing to relieve your anxieties about possible severe financial loss from accident or sickness:

- **Professional OVERHEAD Expense** to pay those fixed office expenses for you while you can't practice . . . and keep your office open!
- **"Catastrophic" HOSPITAL-NURSE Expenses** to meet those unexpected high costs from serious accident or sickness disability!

Both Plans go to work immediately, protecting your budget with their LOW-COST, BROAD COVERAGE ingredients.

Call us today—collect. Find out why The Medical Society of Virginia has selected these sensible Insurance Plans as the best available to its Members. We'll send you more information. No obligation, of course.

(But, plenty of smart financial advice!)

ADMINISTRATOR: David A. Dyer
Medical Arts Building,
Roanoke, Virginia 24011
Phone: 344-5000

Both Plans underwritten by:

AMERICAN CASUALTY COMPANY
OF READING, PENNSYLVANIA • 19603

"George wants to know if it's okay to take his cold medicine now, Doctor, instead of seven o'clock?"

The long-continued action of Novahistine LP should help you both get a good night's sleep. Two tablets in the morning and two in the evening will usually provide round-the-clock relief by helping clear congested air passages for freer breathing. Novahistine LP also helps restore normal mucus secretion and ciliary activity—normal physiologic defenses against infection of the respiratory tract. Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution ambulatory patients that drowsiness may result. Each Novahistine LP tablet contains: phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

NOVAHISTINE® LP

DOW **PITMAN-MOORE** Division of The Dow Chemical Company, Indianapolis

in chronic illness

B and C vitamins are part of therapy: An imbalance of water-soluble vitamins and chronic illness often go hand in hand. STRESSCAPS capsules, containing therapeutic quantities of vitamins B and C, are formulated to meet the increased metabolic demands of patients with physiologic stress. In chronic illness, as with many stress conditions, STRESSCAPS vitamins are therapy.

Stresscaps®

Stress Formula Vitamins Lederle

FOR PROFESSIONAL RECOMMENDATION ONLY

Each capsule contains:

Vitamin B_1 (as Thiamine Mononitrate)	10 mg
Vitamin B_2 (Riboflavin)	10 mg
Vitamin B_6 (Pyridoxine HCl)	2 mg
Vitamin B_{12} Crystalline	4 mcgm
Vitamin C (Ascorbic Acid)	300 mg
Niacinamide	100 mg
Calcium Pantothenate	20 mg

Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 and 100; bottles of 500.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

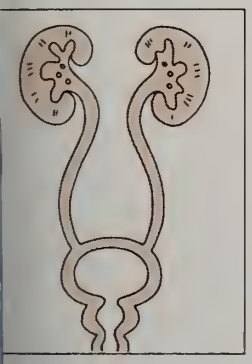
Lederle

628-6—3614

When the battle with bacteria is in the G. U. trac

Artist's conception of acute infection
showing G.U. pathogens with predominance of *E. coli*.

consider Gantanol (sulfamethoxazole)



For vigorous treatment of G.U. infections before the invaders become entrenched... Gantanol (sulfamethoxazole) offers a comprehensive spectrum of antibacterial effectiveness against most common gram-negative as well as gram-positive invaders. In addition, it provides satisfactory concentrations in the blood and urine with ready diffusion to interstitial fluids for antibacterial activity at foci f bacterial invasion.

igh antibacterial activity against *E. coli* and other ommon urinary pathogens... A review of 153 cases of cute G.U. infections reported in the literature shows that 90% responded to Gantanol (sulfamethoxazole), with over one-half of these patients showing excellent relief of symptoms.[1,2] Even in stubborn chronic G.U. infections, almost 60% of 450 patients improved on Gantanol (sulfamethoxazole), including many who had not responded to other antibacterials.[1-6]

Generally uncomplicated therapy enhances the favorable clinical results... Of the total 686 patients from the studies cited,[1-6] only three discontinued therapy because of side effects. Most of the side effects reported (approximately 3%) were mild and included nausea and/or vomiting, skin rash, dizziness, headache, gastritis, generalized uneasiness and itching.[1-6]

1. Peters, J. H.: *J. Urol.*, *87*:747, 1962. 2. Draper, J. W., *et al.*: *South. M. J.*, *57*:920, 1964. 3. Stewart, B. L.: *J. Urol.*, *87*:491, 1962. 4. Hagstrom, R. S.: *Rocky Mountain M. J.*, *59*:(2), 37, 1962. 5. Arnold, J. H.: *Clin. Med.*, *71*:552, 1964. 6. Nelson, C. G.: *Colorado GP*, *3*:(3), 2, 1961.

efore prescribing, please consult complete product formation, a summary of which follows:

ontraindicated in sulfonamide-sensitive patients, egnant females at term, premature infants, or newrn infants during first three months of life.

arnings: Use only after critical appraisal in patients th liver damage, renal damage, urinary obstruction blood dyscrasias. If toxic or hypersensitivity reacns or blood dyscrasias occur, discontinue therapy. In termittent or prolonged therapy, blood counts and er and kidney function tests should be performed.

ecautions: Observe usual sulfonamide therapy preutions, including maintenance of an adequate fluid take. Use with caution in patients with histories of ergies and/or asthma. Patients with impaired renal nction should be followed closely since renal impairent may cause excessive drug accumulation. Occaonal failures may occur due to resistant microorganms. Not effective in virus or rickettsial infections.

dverse Reactions: Headache, nausea, vomiting, urtiria, diarrhea, hepatitis, pancreatitis, blood dyscras, neuropathy, drug fever, skin rash, Stevens-Johnson syndrome, injection of the conjunctiva and sclera, petechiae, purpura, hematuria or crystalluria may occur, in which case the dosage should be decreased or the drug withdrawn.

Dosage: Adults—4 tablets initially, then 2 tablets b.i.d. or t.i.d. depending upon severity of infection. Children —1 tablet/20 lbs initially, followed by ½ tablet/20 lbs b.i.d.

How Supplied: Tablets, 0.5 Gm, bottles of 50.

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

ROCHE

when there are bacterial invaders in the bladder, prostate or kidneys

Gantanol®
(sulfamethoxazole)

Bartholin's gland
Periurethral glands
Cervical glands
Flagyl®
brand of
metronidazole
Seminal vesicles
Bladder
Prostate gland

Destroys Trichomonads Wherever They Are

Flagyl seeks out the sites where trichomonads hide. Only a systemic agent can. Flagyl does, selectively and effectively.

Flagyl destroys trichomonads in the inner crypts, glands and cavities of the genitourinary tract in both women and men. Consequently, Flagyl is capable not only of curing trichomoniasis in women but also of preventing reinfection.

Correctly used, with due attention to repeat courses of treatment for resistant, deep-seated invasion and to the presumption of reinfection from male consorts, Flagyl has repeatedly produced up to 100 per cent cure in large series of patients.

When the diagnosis of trichomoniasis is positive, Flagyl is positive.

Dosage and Administration—In *women:* one 250-mg. oral tablet three times daily for ten days. A vaginal insert of 500 mg. is available for local therapy when desired. When used, one vaginal insert should be placed high in the vaginal vault each day for ten days; concurrently two oral tablets should be taken daily.
In *men* in whom trichomonads have been demonstrated: one 250-mg. oral tablet twice daily for ten days.

Contraindications—Pregnancy; disease of the central nervous system; evidence or history of blood dyscrasia.

Precaution—Complete blood cell counts should be made before, during and after therapy, especially if a second course is necessary.

Side Effects—Infrequent and minor side effects include nausea, metallic taste, furry tongue and headache. Other effects, all reported in an incidence of less than 1 per cent, are diarrhea, dizziness, vaginal dryness and burning, dry mouth, rash, urticaria, gastritis, drowsiness, insomnia, pruritus, sore tongue, darkened urine, anorexia, vomiting, epigastric distress, dysuria, depression, vertigo, incoordination, ataxia, abdominal cramping, constipation, stomatitis, numbness of an extremity, joint pains, confusion, irritability, weakness, flushing, cystitis, pelvic pressure, dyspareunia, fever, polyuria, incontinence, decreased libido, nasal congestion, proctitis and pyuria. Elimination of trichomonads may aggravate candidiasis.

SEARLE *Research in the Service of Medicine*

Did Dorothy Larson show you her ankles in private? Now she shows them in public.

Your office examination would have confirmed that Mrs. Larson was up to her knees in edema. Her heart was beginning to fail. And her ankles had disappeared under an inch of salty water.

Along with digitalis, you might have prescribed Hygroton. To get rid of the edema. And to keep it from coming back. And you prescribe Hygroton the same way you usually prescribe digitalis: just once a day.

Tablet for tablet, Hygroton is just about the most effective diuretic going. And it costs a fraction of what Mrs. Larson would have to spend for equivalent therapy with short-acting diuretics.

In fact, Hygroton is an awfully nice way to treat the Mrs. Larsons in your practice. Just tell them you can get their ankles back at half price.

Indications: Hypertension and many types of edema involving retention of salt and water.
Contraindications: Hypersensitivity and most cases of severe renal or hepatic disease.

Warning: With administration of enteric-coated potassium supplements, the possibility of small bowel lesions should be kept in mind.
Precautions: Reduce dosage of concomitant antihypertensive agents by at least one-half. Discontinue [illegible] BUN rises or liver dysfunction is aggravated. Ele[illegible] imbalance and potassium depletion may occur; [illegible] special care in cirrhosis or severe ischemic heart [illegible]

d patients receiving corticosteroids, ACTH, or digi-
is alt restriction is not recommended.
de fects: Dizziness, weakness, nausea, vomiting,
pa lycemia, hyperuricemia, headache, muscle cramps, postural hypotension, constipation, leukopenia, throm bocytopenia, agranulocytosis, impotence, dysuria, transient myopia, skin reactions, including urticaria and purpura, epigastric pain, or G.I symptoms after prolonged administration.

Average Dosage One tablet (100 mg) with breakfast daily or every other day.
Availability Tablets of 100 mg. 6524-V(B)
For full details, see prescribing information.

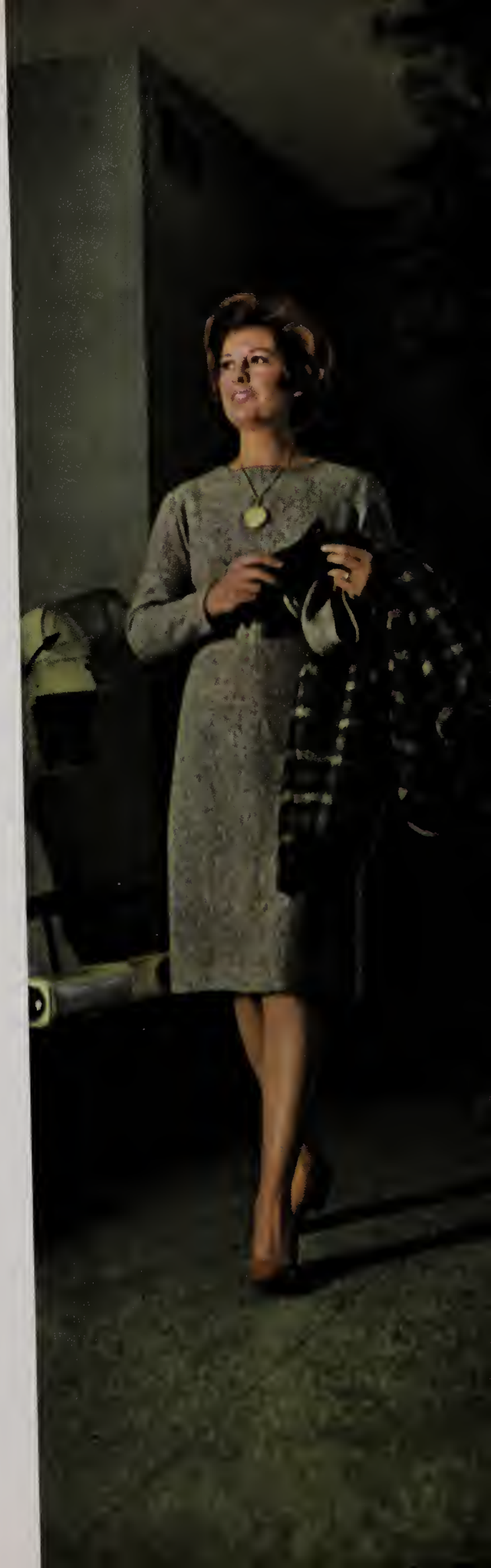
...so you might say Hygroton is good public relations for Mrs. Larson

Because it gets her *out* in public in the first place. At 43, Mrs. Larson worries about appearances and swollen ankles don't help.

But Hygroton's cosmetic effect is only half the story. Hygroton and digitalis therapy helps her get back in the swing of things. Gives her a second wind. Gets rid of the extra pillow she needed for a good night's sleep. Now she even likes to take walks. Just for the fun of it!

When her troubles began, Mrs. Larson thought they were the signs of the change of life. It's a change all right, but one you can treat. And you can count on Hygroton to help keep her in public instead of in the hospital.

See preceding pages for brief summary of prescribing information.

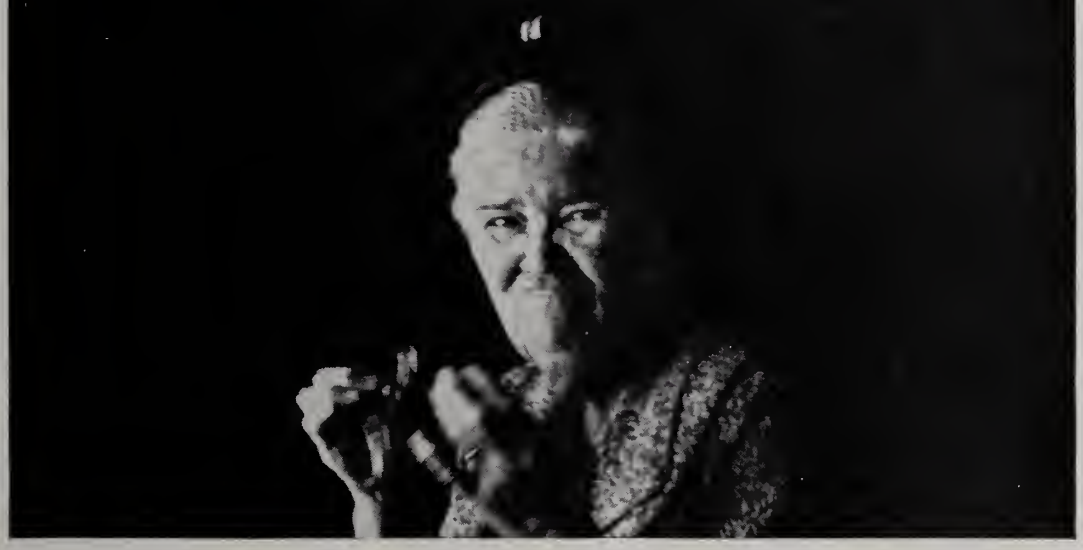


Geigy

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York

IRON DEFICIENCY

ANEMIA



Imferon®

(iron dextran injection)

There's as much iron . . . 250 mg. . . . in a 5 cc. ampul of Imferon (iron dextran injection) as in a pint of whole blood. When iron deficient patients are intolerant of oral iron . . . or orally administered iron proves ineffective or impractical . . . or if the patient cannot be relied upon to take oral iron as prescribed, Imferon (iron dextran injection) dependably increases hemoglobin and rapidly replenishes iron reserves. Precise dosage is easily calculated.

LAKESIDE

IN BRIEF: ACTION AND USES: A single dose of Imferon (iron dextran injection) will measurably begin to raise hemoglobin and a complete course of therapy will effectively rebuild iron reserves. The drug is indicated only for specifically-diagnosed cases of iron deficiency anemia and then only when oral administration of iron is ineffective or impractical. Such iron deficiency may include: patients in the last trimester of pregnancy; patients with gastrointestinal disease or those recovering from gastrointestinal surgery; patients with chronic bleeding with continual and extensive iron losses not rapidly replenishable with oral iron; patients intolerant of blood transfusion as a source of *iron;* infants with hypochromic anemia; patients who cannot be relied upon to take oral iron.

COMPOSITION: Imferon (iron dextran injection) is a well-tolerated solution of iron dextran complex providing an equivalent of 50 mg. in each cc. The solution contains 0.9% sodium chloride and has a pH of 5.2-6.0. The 10 cc. vial contains 0.5% phenol as a preservative.

ADMINISTRATION AND DOSAGE: Dosage, based upon body weight and Gm. Hb/100 cc. of blood, ranges from 0.5 cc. in infants to 5.0 cc. in adults, daily, every other day, or weekly. Initial test doses are advisable. The total iron requirement for the individual patient is readily obtainable from the dosage chart in the package insert. Deep intramuscular injection in the upper outer quadrant of the buttock, using a Z-track technique, (with displacement of the skin laterally prior to injection), insures absorption and will help avoid staining of the skin. A 2-inch needle is recommended for the adult of average size.

SIDE EFFECTS: Local and systemic side effects are few. Staining of the skin may occur. Excessive dosage, beyond the calculated need, may cause hemosiderosis. Although allergic or anaphylactoid reactions are not common, occasional severe reactions have been observed, including three fatal reactions which may have been due to Imferon (iron dextran injection). Urticaria, arthralgia, lymphadenopathy, nausea, headache and fever have occasionally been reported.

PRECAUTIONS: If sensitivity to test doses is manifested, the drug should not be given. Imferon (iron dextran injection) must be administered by deep intramuscular injection only. Inject only in the upper outer quadrant of the buttock, not in the arm or other exposed area.

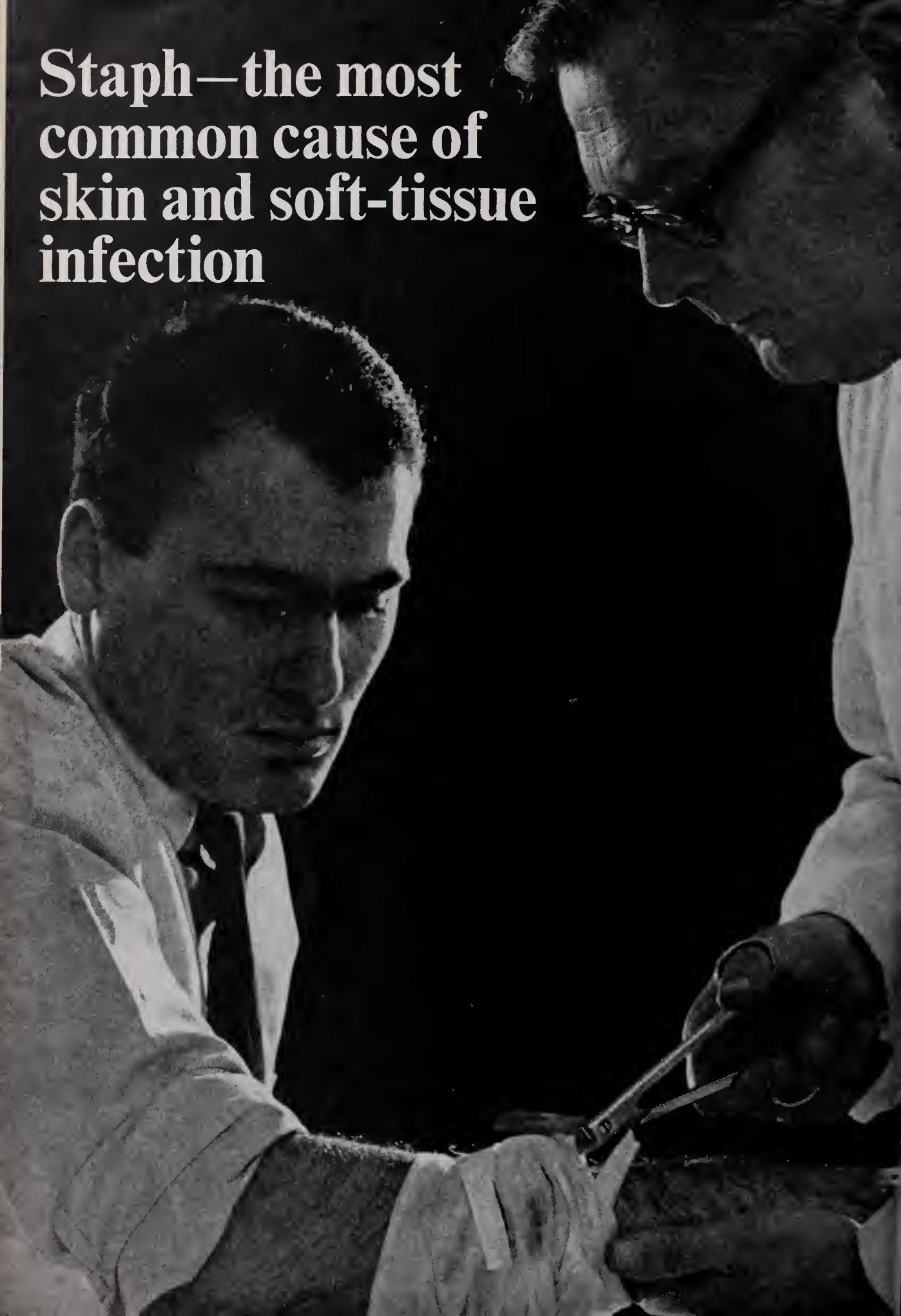
CONTRAINDICATIONS: Imferon (iron dextran injection) is contraindicated in patients sensitive to iron dextran complex. Since its use is intended for the treatment of iron deficiency anemia only it is contraindicated in other anemias.

CARCINOGENICITY POTENTIAL: Using relatively massive doses, Imferon (iron dextran injection) has been shown to produce sarcoma in rats, mice and rabbits and possibly in hamsters, but not in guinea pigs. The risk of carcinogenesis, if any in man, following recommended therapy with Imferon (iron dextran injection) appears to be extremely small.

SUPPLIED: 2 cc. ampuls, boxes of 10; 5 cc. ampuls, boxes of 4, 10 cc. multiple dose vials.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

Staph—the most common cause of skin and soft-tissue infection



.reliably controlled with specific therapy

A suitable dosage form for every staph situation

Staph—the most common cause of skin and soft-tissue infection—also is responsible for many more serious infections, such as pneumonia, osteomyelitis, and septicemia. Often, a seemingly minor skin infection is the source of metastatic spread to deeper structures. When findings on culture incriminate staph as the cause, Prostaphlin (sodium oxacillin) will provide specific effective therapy.

Bactericidal effectiveness. Hardly a staph organism can resist the bactericidal action of Prostaphlin (sodium oxacillin), as shown by a 34-month *in vitro* study. Of all staph isolates tested, 99.5% were sensitive to oxacillin.[1]

Clinically proven. There is a high correlation between these *in vitro* findings and clinical results. Of 610 patients treated with Prostaphlin (sodium oxacillin), 89.8% were reported cured or improved, including those with staph infections resistant to penicillin G.[2] And since resistance does not appear to develop *in vivo,* therapy with oxacillin can be extended when necessary.

Outstanding safety record. Besides being staph-specific and rapidly absorbed—Prostaphlin (sodium oxacillin) has established an outstanding record of safety during five years of widespread clinical use. Continuous high blood levels of oxacillin have not produced toxic effects on kidney function, assuring a significant margin of safety. However, as with all penicillins, the possibility of allergic response should be considered.

Capsules, Oral Solution and Injectable. Prostaphlin (sodium oxacillin) is available in three flexible dosage forms to suit the age of the patient and severity of infection—capsules, an oral solution for pediatric use, and multi-dose vials for injection, I.M. or I.V.

PRESCRIBING INFORMATION: For complete information, consult Official Package Circular. *Indications:* Infections caused by Staphylococci, particularly those due to penicillin G-resistant Staphylococci. *Contraindications:* A history of severe allergic reactions to penicillin. *Precautions:* Typical penicillin-allergic reactions may occur. Safety for use in pregnancy and premature infants is not established. Because of limited experience, use cautiously and evaluate organ system function frequently in neonates. Mycotic or bacterial superinfections may occur. Assess renal, hematopoietic and hepatic function intermittently during long-term therapy. *Adverse Reactions:* Skin rashes, pruritus, urticaria, eosinophilia, nausea, vomiting, diarrhea, fever and occasional anaphylaxis. Rare cases of reversible hepatocellular dysfunction have occurred. Moderate SGOT elevations have been noted. Thrombophlebitis has occurred occasionally during intravenous therapy and leukopenia was noted in two cases. *Usual Oral Dosage:* Adults: 500 mg. *q.4* or *q.6h.* Children: 50 mg./Kg./day. *Usual Parenteral Dosage:* Adults: 250-500 mg. *q.4* or *q.6h.* Children: 50 mg./Kg./day. Treat beta-hemolytic streptococcal infections for at least 10 days. Give oral drug 1 to 2 hours before meals. *Supplied:* Capsules—250 and 500 mg. in bottles of 48. Injectable—250 mg., 500 mg., and 1 Gm. dry filled vial for I.M./I.V. use. For Oral Solution—100 ml. bottle, 250 mg./5 ml. when reconstituted. **A.H.F.S. CATEGORY: 8:12.6**

References: 1. Abstracted from *Antibiotic Sensitivity of Staphylococci Studied from November 1962 through August 1965,* reported by Griffith, L.J., Staphylococcus Reference Laboratory, V.A. Hospital, Batavia, N.Y. 2. Data on file, Bristol Laboratories.

BRISTOL

BRISTOL LABORATORIES/Division of Bristol-Myers Co., Syracuse, N.Y.

Whenever you suspect staph PROSTAPHLIN®

SODIUM OXACILLIN

DIURESIS

MERCUHYDRIN®
(meralluride injection)

Twenty years ago the publication of "A System for the Routine Treatment of the Failing Heart"[1] established a schedule of diuretic therapy as a primary factor in the treatment of acute congestive failure. With emphasis upon daily injections of Mercuhydrin (meralluride injection) until dry weight was obtained, Gold, et al. achieved a 40% increase in improvement, in ⅓ the time, over other methods then current. Today, most medical texts continue to recommend parenteral mercurials in acute congestive failure when prompt diuresis is indicated.

Recently Modell[2] has stated: "The mercurial diuretics are the injectable diuretics of choice since they are the most potent as well as the most dependable. Their toxicity is not an important consideration either by comparison with other potent diuretics or in relation to the seriousness of the conditions in which they provide such excellent relief."

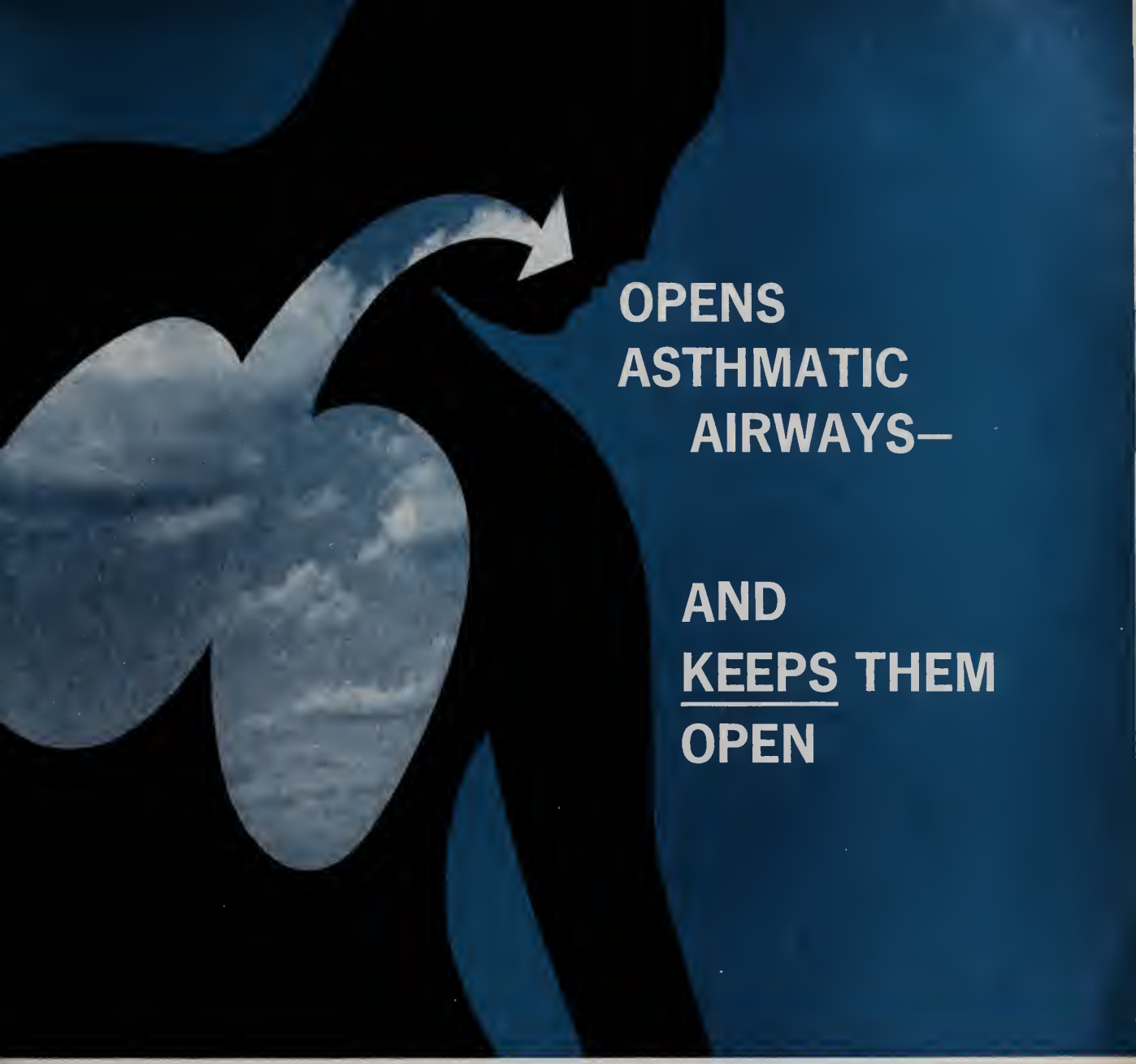
LAKESIDE

IN BRIEF

Mercuhydrin is indicated in edema of cardiac or hepatic origin and in the nephrotic syndrome; it is contraindicated in acute nephritis and in anuric or oliguric states. *The usual adult dose is one to two cc. daily or every other day until "dry weight" is obtained.* Sensitivity is rare but small initial doses are advised to minimize potential reactions; vertigo, fever, and rash have occurred. Overdosage may produce electrolyte depletion, muscle cramps, and G. I. reactions. Supplied: 1 cc. and 2 cc. ampuls in boxes of 12, 25 and 100; 10 cc. rubber capped, multiple-dose vials (intramuscular or subcutaneous use only) in boxes of 6 and 100.

1. Gold, Harry, *et al.: A System for the Routine Treatment of the Failing Heart,* The American Journal of Medicine, Vol. III, No. 6:665-692 (Dec.) 1956.
2. Modell, Walter: *Drugs of Choice 1966-1967,* p. 97, 1966.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201



NUMA® DURA-TABS®

for *prolonged* aid to ventilation

Each Numa Dura-Tab provides:

theophylline	225 mg.
ephedrine HCl	50 mg.
butabarbital	25 mg.

(Warning: butabarbital may be habit-forming.)

Numa Dura-Tabs provide *prolonged* three-way action to ease breathing. Theophylline, a potent bronchodilator with minimal effect on the CNS, opens air passages and reduces bronchial spasm. Ephedrine HCl improves breathing capacity through its decongestant action. Butabarbital, a mild sedative, allays fear and apprehension.

Dosage: One Numa Dura-Tab every 8 to 12 hours helps keep the asthmatic patient symptom-free all day/all night.

Precautions: Use with caution in cardiovascular or hyperthyroid disease, severe hypertension, circulatory collapse, prostatic hypertrophy, or glaucoma.

WYNN Pharmaceuticals, Inc. Phila., Pa. 19132 • Manufacturers of QUINAGLUTE® DURA-TABS®

(quinidine gluconate 5 gr.)

Whenever the diet is faulty, the appetite poor, or the loss of food is excessive

through vomiting or diarrhea—

Valentine's
MEAT EXTRACT

stimulates the appetite,

increases the flow of digestive juices,

provides: supplementary amounts of vitamins, minerals and soluble proteins,

extra-dietary vitamin B_{12},

protective quantities of potassium, in a palatable and readily assimilated form.

Supplied in bottles of 2 or 6 fluidounces.

DOSAGE *is 1 teaspoonful two or three times daily; two or three times this amount for potassium therapy. Dilute with two or more equal volumes of water.*

VALENTINE Company, Inc.
RICHMOND 21, VIRGINIA

VALIUM®
(diazepam)Roche®

Before prescribing, please consult complete product information, a summary of which follows:

Contraindications: Infants, patients with history of convulsive disorders, glaucoma or known hypersensitivity to drug.

Warning: Not of value in the treatment of psychotic patients, and should not be employed in lieu of appropriate treatment.

Precautions: Limit dosage to smallest effective amount in elderly or debilitated patients (not more than 1 mg, one or two times daily initially) to preclude ataxia or oversedation, increasing gradually as needed or tolerated. As is true of all CNS-acting drugs, until correct maintenance dosage is established, advise patients against possibly hazardous procedures requiring complete mental alertness or physical coordination. Driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. If such combination therapy is used, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of Valium (diazepam), such as phenothiazines, barbiturates, MAO inhibitors and other antidepressants. Advise patients against simultaneous ingestion of alcohol or other CNS depressants. Safe use in pregnancy not established. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Observe usual precautions in impaired renal or hepatic function. Periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

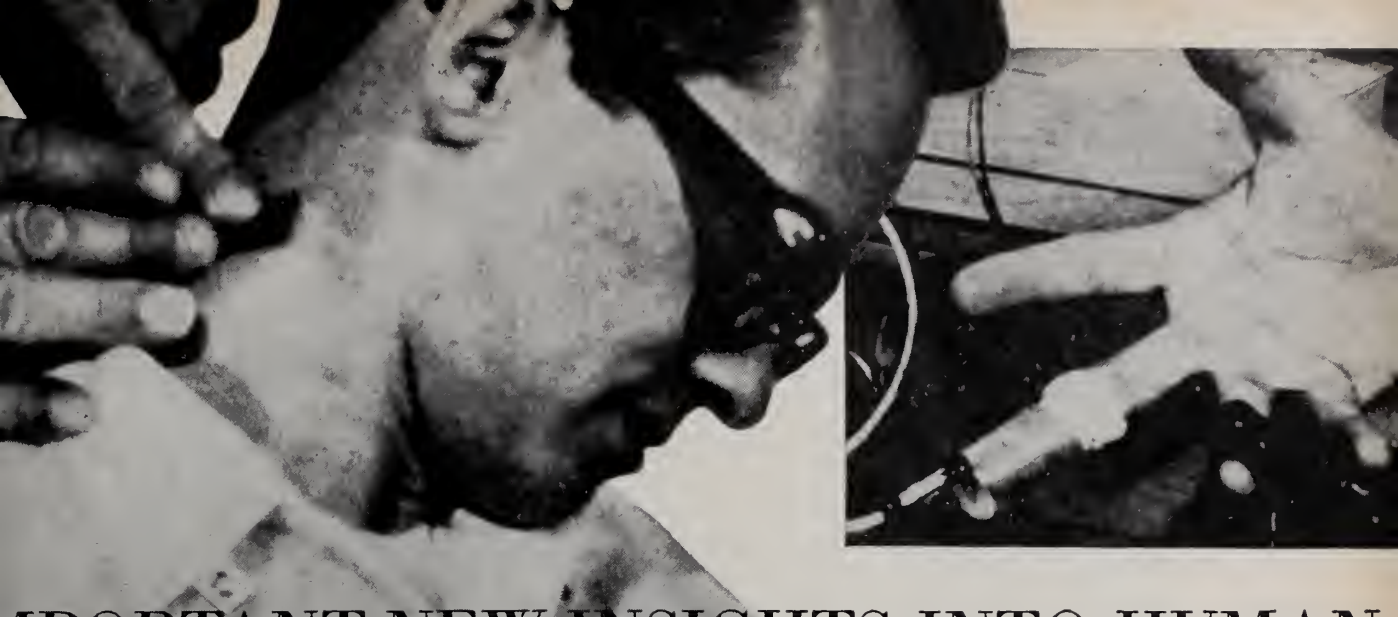
Side Effects: Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances, acute hyperexcited states, hallucinations); changes in EEG patterns during and after drug treatment. Abrupt cessation after prolonged overdosage may produce withdrawal symptoms (convulsions, tremor, abdominal and muscle cramps, vomiting, sweating) similar to those seen with barbiturates, meprobamate and chlordiazepoxide HCl.

Dosage—*Adults:* Mild to moderate psychoneurotic reactions, 2 to 5 mg b.i.d. or t.i.d.; severe psychoneurotic reactions, 5 to 10 mg t.i.d. or q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; muscle spasm with cerebral palsy or athetosis, 2 to 10 mg t.i.d. or q.i.d. *Geriatric patients:* 1 or 2 mg/day initially, increase gradually as needed and tolerated. (See Precautions)

Supplied: Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 50 and 500.

ROCHE

Roche Laboratories
Division of
Hoffmann-LaRoche Inc.
Nutley, N.J. 07110



MPORTANT NEW INSIGHTS INTO HUMAN ESPONSE TO EMOTIONAL STRESS:

npressive new confirmation of the effectiveness of alium®(diazepam)

k your Roche representative to arrange a esentation of this important and fascinating w technique of research in emotional stress a new methodology...quantitative, objective easurement with double-blind controls.

ase see opposite page for important scribing information.

For the
Discriminating
Eye Physician

Depend on the Services of a Guild Optician

in
Lynchburg, Virginia

A. G. JEFFERSON

Ground Floor **Allied Arts Bldg.**

Exclusively Optical

Every Virginia Doctor Should Have These Books!

The history of medicine in the Old Commonwealth from Jamestown to the beginning of the present century is a work every doctor should be proud to own. Complete and intensely interesting.

Medicine In Virginia

By Wyndham B. Blanton, M.D.
Published under the Auspices of
The Medical Society of Virginia

Reduced price to members of The Medical Society of Virginia
18th Century—$2.00
19th Century—$2.00

Order through

The Medical Society of Virginia
4205 Dover Road
Richmond 21, Virginia

Tandearil®
oxyphenbutazone

Tandearil in Painful Shoulder

Therapeutic Effects: Stiffness and pain may diminish within 2 days, and full mobility may be restored within a week. These effects are obtained with oxyphenbutazone alone or combined with physiotherapy or local hormonal injections. The drug is usually well tolerated and does not affect pituitary-adrenal function or immune response.

Contraindications: Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently.

Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

Precautions: Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage. Make regular blood counts. Discontinue the drug and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

Adverse Reactions: The most common are nausea, edema and drug rash. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

Dosage in Painful Shoulder: 600 mg. daily in divided doses for 2 to 3 days; 300 mg. daily thereafter. Usual duration of therapy: 2 to 7 days.

Availability: Tablets of 100 mg. 6562-VI(B)R

For complete details, please refer to full prescribing information.

Geigy
Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York

Geigy

Tandearil®
oxyphenbutazone

helps painful shoulders move again

3 out of 4 painful shoulder patients responded well

84.2% of 127 patients

81% of 48 patients

Please see adjoining page for brief prescribing summary.

TA-5094PC

Sperling, I. L. Applied Therap 6 117, 1964
Rosenbaum, E. E., and Schwarz, G R North-west Med. 61:927, 1962

Why these 7 patients wit
moderate to severe anxiet
may respond better to Mellari

1. The agitated patient.
Anxiety—particularly that beyond
range of minor tranquilizers—f
quently is expressed as gross mo
restlessness, fidgetiness and purpo
less movements, and may erupt i
aggressive behavior. Mellaril is
most a specific for those patie
whose anxiety follows such a patte

e psychosomatic patient.
amily physician is rarely given iagnostic luxury of a classic, ook "anxiety state." Most often st probe for anxiety masked by tional disorder—or which exac- es a somatic problem. Double- evaluations have demonstrated Mellaril can be a significant ad- in the treatment of such patients.

e patient under tional stress.
il helps the patient deal with es of everyday life. Nonhabitu- it can be given for extended pe- of time. It does not "separate" tient from practical problems essures, does not induce eupho- a fuzziness which can compro- the ability to cope with reali- s. Rather, it helps the patient ove more competently in his daily world by eliminating use- less tension, by allowing him to conserve emotional resources and energies, and to direct them against the problems really worth worrying about.

4. The menopausal patient.
The woman who sees change of life as the end of useful life requires support from both family and family physician. Whether the psychological impact of menopause is directly related to hormonal changes, or merely coincidental, is debatable, but estrogenic therapy is frequently inadequate. Mellaril is a useful aid for these patients and, alone, or in combination with reduced estrogen dosage, will help ease the menopausal misery.

5. The previously hospitalized psychiatric patient.
Such a patient may still require the type of medication he has been accustomed to, but because he is no longer in a controlled setting the acceptable level of adverse reactions must be lower. In such circumstances Mellaril is perhaps the drug of choice.

6. The agitated geriatric.
Tranquilizer therapy in the elderly patient always involves special (or at least accentuated) problems: the possibility of drug-induced ataxia, hypotension or depression, for example, assumes an additional significance. These reactions have rarely been observed in geriatric patients treated with Mellaril.

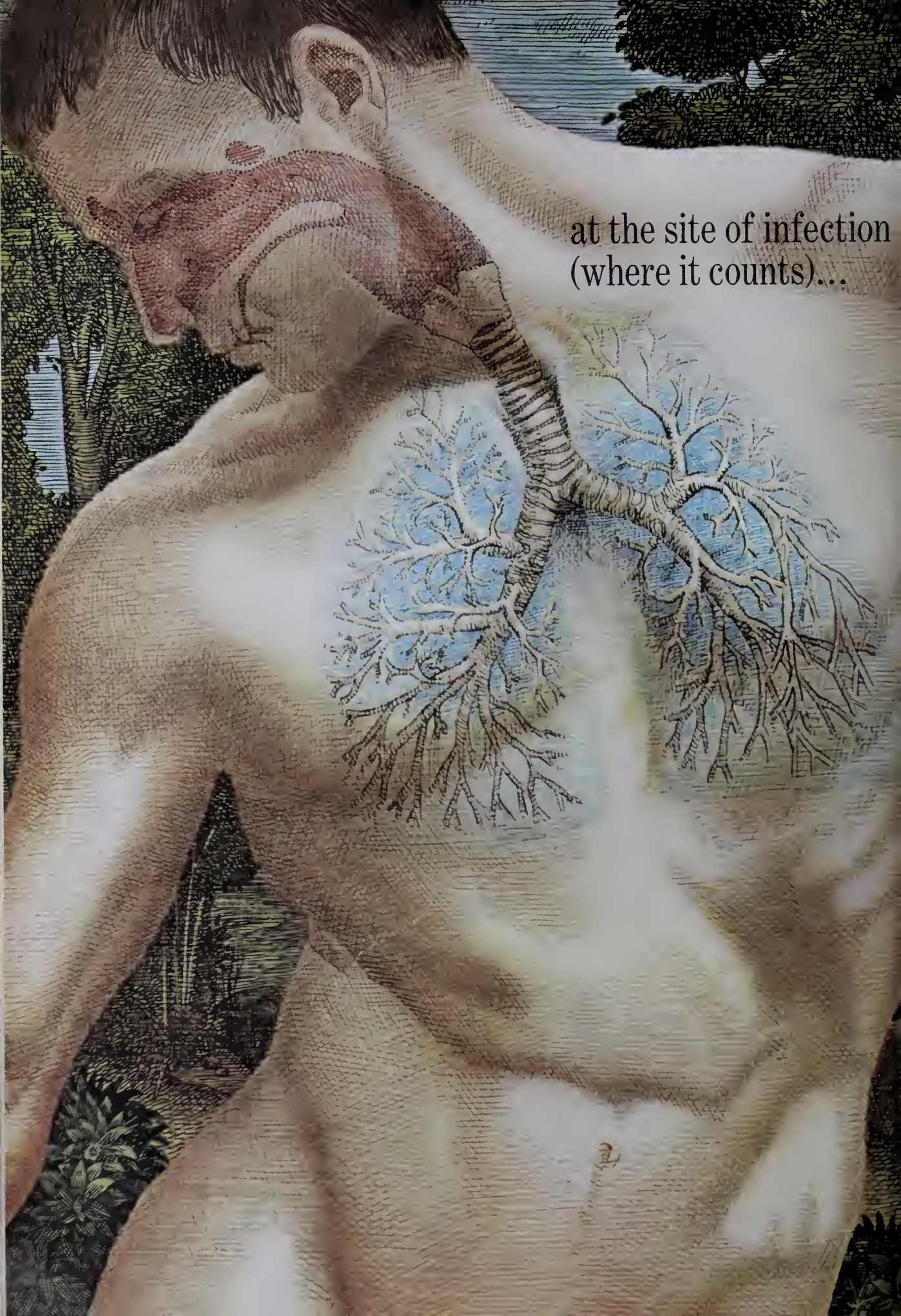
7. The constantly returning patient.
The anxiety patient who has not responded to a minor tranquilizer is not very likely to benefit from your minor tranquilizer of second choice. A major tranquilizer, such as Mellaril, may be indicated in such patients.

Contraindications: Severely depressed or comatose states from any cause, and in association with or following MAO inhibitors; severe hypertensive or hypotensive heart disease.
Precautions: Hypersensitivity reactions (e.g., leukopenia, agranulocytosis) and convulsive seizures are infrequent. Pigmentary retinopathy has been observed where doses in excess of those recommended were used for long periods of time. May potentiate central nervous system depressants, atropine, and phosphorus insecticides. Where complete mental alertness is required, administer the drug cautiously and increase dosage gradually. In addition, orthostatic hypotension (especially in female patients) has been observed. Epinephrine should be avoided in treatment of drug-induced hypotension.
Side Effects: Pseudoparkinsonism and other extrapyramidal disorders are infrequent; drowsiness, especially in high doses early in treatment, may occur; nocturnal confusion, dryness of the mouth, nasal stuffiness, headache, peripheral edema, lactation, galactorrhea, and inhibition of ejaculation are noted on occasion; photosensitivity and other allergic skin reactions may occur but are extremely rare.
Before prescribing, see package insert for full product information.

in moderate to severe anxiety, 25 mg. t.i.d.

Mellaril®
(thioridazine)

SANDOZ


at the site of infection
(where it counts)...

Ilosone® provides more antibacterial activity than any other oral erythromycin

Acid stable, better absorbed... Ilosone produces faster, higher, more prolonged blood levels, even in the presence of food[1-3]

Because it is the most active form of oral erythromycin, Ilosone can help assure consistently greater antibacterial activity at the site of infection. Ilosone produces peak antibacterial blood levels two to four times those of other erythromycin preparations.[1,2] Not only are these levels attained earlier, but they are maintained for much longer periods. Even the presence of food does not seem to affect the activity of Ilosone.[1,3]

In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

700121

Ilosone®

Erythromycin Estolate

Lilly

(See next page for prescribing information.)

Ilosone®/the most active oral form of erythromycin

Description: Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

Indications: Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone.

Contraindications: Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with preexisting liver disease or dysfunction.

Side-Effects: Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have appeared in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly if the drug is readministered to sensitive patients, usually within forty-eight hours. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to be definitely related to use of the drug, laboratory findings v characterized by increased direct-reacting bilirubin, elev alkaline phosphatase levels, negative or weakly positive ceph flocculation and thymol turbidity tests, elevated serum gluta oxalacetic transaminase levels, peripheral eosinophilia, and mal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has been reported in other patients taking prolonged courses of medication. Patients with chronic infection have been given to 2 Gm. of the drug daily for periods of two to six months, patients with rheumatic fever have taken prophylactic dose 0.5 Gm. daily for two years without difficulty. In one grou 144 patients who received the drug daily for two years, no ja dice was noted. It was of interest that members of six of t patients' families, who were not taking the drug, had epis of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels v determined in a group of fifty-four adults and children who 250 mg. of Ilosone daily for an average of sixteen month rheumatic fever prophylaxis. The results were compared those of a similar group of forty-four patients who received icillin. There were no cases of jaundice in either group. Eleva of SGPT and serum alkaline phosphatase levels during the co of treatment was observed in one patient treated with Ilo and in two patients treated with penicillin. Seven other pat in the group receiving Ilosone and four others in the penic group showed elevations in one of the tests at some time du administration of the drugs.

Very satisfactory therapeutic results, without toxicity, reported in 102 pediatric patients who received short-term day) courses of Ilosone in the treatment of streptococcus i tions. Results of liver function tests in these patients were parable to those in a similar control group who had rec penicillin.

Gastro-intestinal disturbances not associated with hepat fects are observed in a small proportion of individuals as a r of a local stimulating effect of the medication on the alime tract; however, the normal intestinal gram-negative bac flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with th of erythromycin, there have been occasional reports of urti skin eruptions, and, on rare occasions, anaphylaxis.

Administration and Dosage: Ilosone is administered orally.
Ilosone Pulvules®
Ilosone Chewable Tablets
Ilosone Drops
Ilosone, 125, for Oral Suspension

For infants and for children under twenty-five pounds of weight, the usual dosage is 5 mg. per pound every six hour children twenty-five to fifty pounds, 125 mg. every six (Tablets Ilosone Chewable should be chewed or crushe swallowed with water.)

For adults and for children over fifty pounds, the usual of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythro therapy should be considered.

In the treatment of syphilis, the recommended total dos 20 to 30 Gm. given in divided doses for a period of ten to days. Close follow-up of the patient is necessary since er mycin drugs have not had adequate evaluation in all sta syphilis. Examinations of spinal fluid are recommended a of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four da recommended. In the treatment of gonorrhea, patients suspected lesion of syphilis should have a dark-field exami before receiving antibiotics, and monthly serologic tests be made for a period of three months.

How Supplied: Pulvules Ilosone, Capsules, N.F., 125 and 2 (equivalent to base), in bottles of 24 and 100.

Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to in bottles of 50.

Ilosone Drops, 5 mg. (equivalent to base) per drop, in size packages, with dropper calibrated at 25 and 50 mg.

Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equ to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size pa

References: 1. Griffith, R. S., and Black, H. R.: Am. J. M. Sc., *247:* 19
2. Griffith, R. S., and Black, H. R.: Antibiotics & Chemother., *12:3* 19
3. Hirsch, H. A., Pryles, C. V., and Finland, M.: Am. J. M. Sc., *239:*198 960

Additional information available to physicians upon request.
Eli Lilly and Company, Indianapolis, Indiana 46206.

New view of an oral contraceptive at work

Although suppression of ovulation remains the primary mode of action of oral contraceptives, newer knowledge indicates that products like Norinyl-1 — which provide the combined action of both low-dosage progestogen and estrogen for the full treatment cycle — offer multiple contraceptive action that helps explain their unexcelled record of effectiveness. This report explores the secondary protective mechanisms against unwanted pregnancy offered by combined hormonal administration and the importance of the progestational agent in making such multiple contraceptive action possible.

Accumulating evidence has indicated that sparse, highly viscous cervical mucus has an adverse effect on the motility and survival of spermatozoa.

The estrogen-opposing progestational ingredient of Norinyl-1 (norethindrone 1 mg. with mestranol 0.05 mg.) reverses the usual mid-cycle picture of a thin, watery cervical mucus. The result — a built-in barrier that inhibits sperm from reaching the ovum should one be released. The inset in the adjoining photograph shows immobile spermatozoa as they appear in cervical mucus taken from a patient treated with Norinyl-1.

See last page for contraindications, precautions, side effects and dosage.

How the estrogen-opposing action of Norinyl-1 creates a hostile cervical mucus

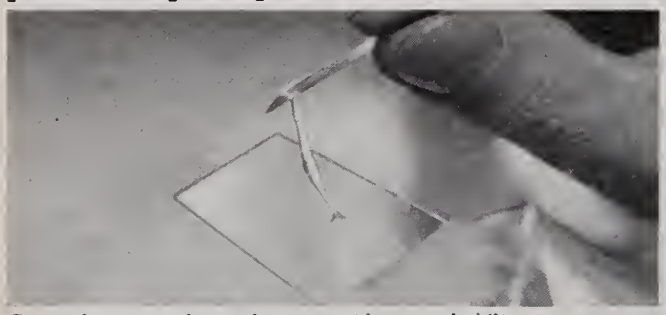
Normally estrogen activity during the fertile midcycle stimulates the production of cervical mucus. The mucus at this time is profuse and watery—allowing maximum sperm motility and promoting penetration.

But what happens when Norinyl-1 is administered? Its potent progestogen, norethindrone, opposes estrogen stimulation of cervical mucus. Consequently, the amount of mucus decreases and its viscosity increases. This results in a sparse but thick mucus barrier that diminishes the vitality of the sperm and impairs its powers of penetration.

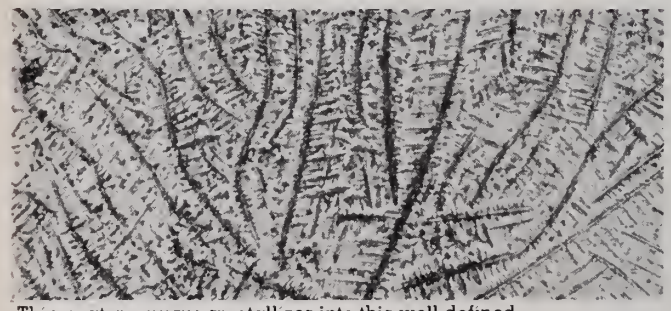
How hostile cervical mucus supports contraceptive action

The importance of these observations to the effectiveness of Norinyl-1 has been noted in a report on 89 patients taking this medication.* In all instances, cervical mucus obtained from cycle day 5 to cycle day 29 appeared scant and thick and exhibited little or no Spinnbarkeit. In the opinion of this investigator, the effect on cervical mucus may be sufficient to prevent conception. *Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965.

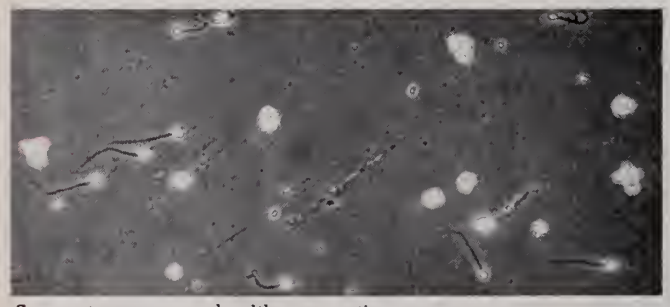
Normal cervical mucus at midcycle in untreated patient permits sperm motility... promotes sperm penetration.



Cervical mucus is thin and watery with a stretchability (Spinnbarkeit) of 15 to 20 cm.



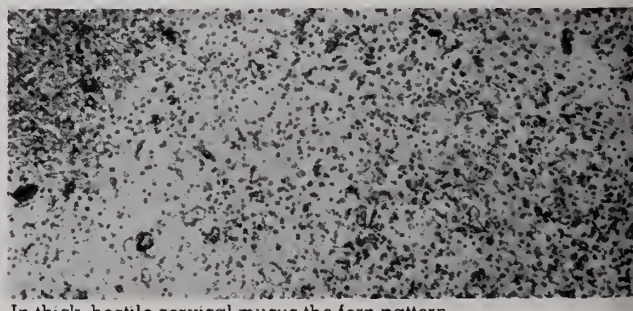
Thin, watery mucus crystallizes into this well-defined, fernlike pattern within a minute.



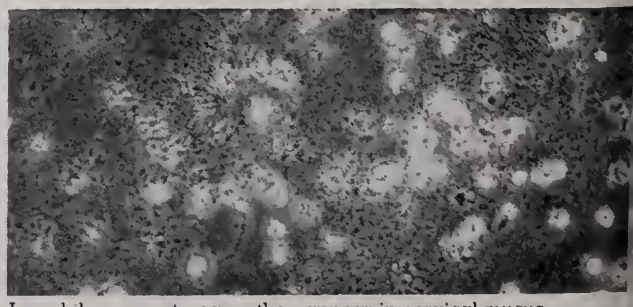
Spermatozoa appear healthy, are active and freemoving.

Hostile cervical mucus at midcycle produced by Norinyl-1 impairs sperm vitality... inhibits penetration.

Cervical mucus is scanty, thick and viscous. Spinnbarkeit is 1 cm. or less.



In thick, hostile cervical mucus the fern pattern is poorly defined or absent.

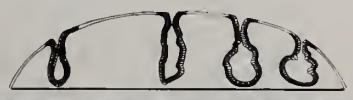


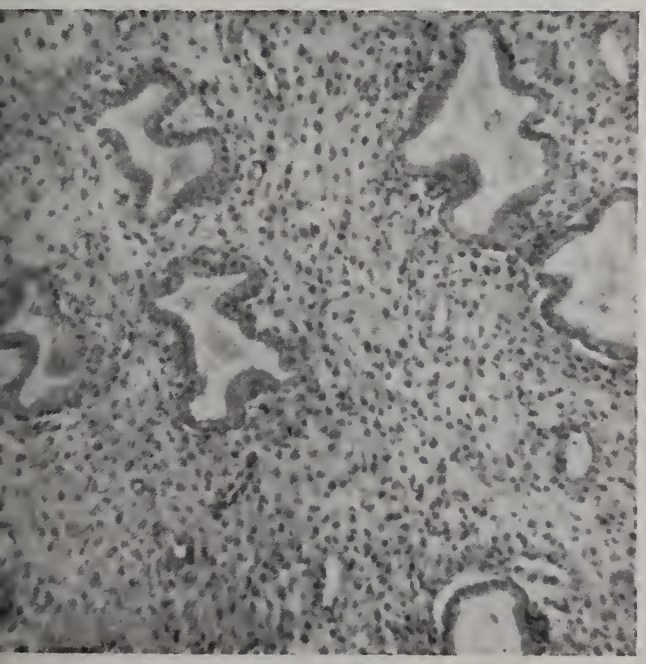
Immobile spermatozoa as they appear in cervical mucus taken from a patient treated with Norinyl-1.

An endometrium unreceptive to nidation– another supporting contraceptive action of Norinyl-1

et us suppose that an ovum is released—as occurs in an ccasional, rare case—and somehow a sperm succeeds in enetrating the cervical mucus barrier? Should this come about, he additional action of Norinyl-1 may protect the patient from nwanted pregnancy—progestogen intake makes endometrial ssue unreceptive to implantation.

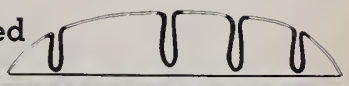
ndometrium of ntreated patient

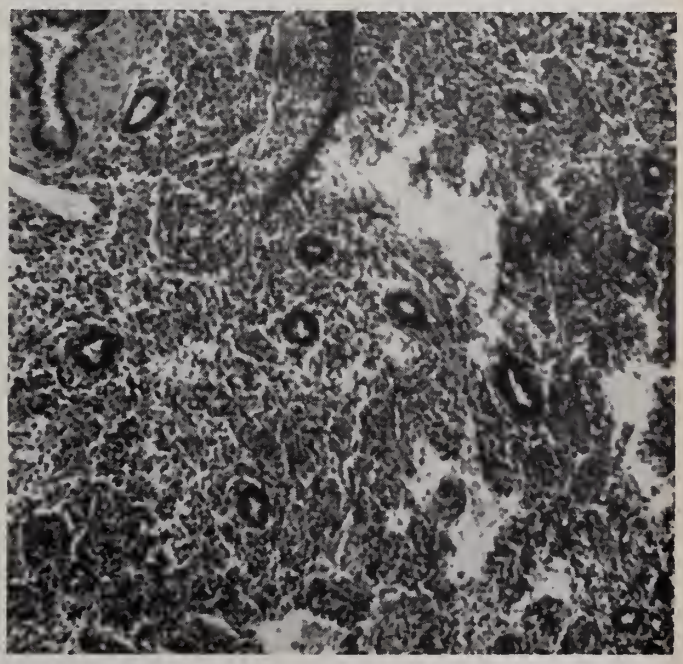




ormally the endometrium progresses through proliferative phase stimulated by estrogen and a ecretory phase stimulated by progesterone. uring the secretory phase the endometrium is ceptive to the fertilized ovum.

Unreceptive endometrium produced by Norinyl-1





When Norinyl-1 is administered its progestogen component—norethindrone—accelerates the secretory phase, suppressing glandular development. From day 11 on, secretory action is no longer present. The result is that during the latter half of the cycle the endometrium becomes unreceptive to egg implantation.

e last page for contraindications, precautions, side effects and dosage.

new Norinyl®-1 tablets

(norethindrone 1mg c̄ mestranol 0.05mg)

for multiple contraceptive action

effective fertility control
on half the previous dosage

maintains ratio
of the established
norethindrone/mestranol
combination

lower cost

new Norinyl-1® tablets

(norethindrone 1mg. c̄ mestranol 0.05mg.)

Reduction of oral contraceptive dosage to lowest effective levels ho become a well-accepted principle of conservative medical practic In keeping with this view, Norinyl is now available in a new streng in which *both* norethindrone and mestranol are reduced 50 perce Studies show that Norinyl-1 achieves fertility control with only 1.(mg. of combined progestogen and estrogen per tablet.

Norethindrone was first reported for use as a progestational agent human beings in 1955. Norethindrone 2 mg. with mestranol 0.1 mg., an oral contraceptive, is currently in use by over 2,000,000 wom Clinical experience now establishes that Norinyl-1 also amply mee the criteria of reliability and safety.*

*Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965.

PRESCRIBING INFORMATION

Contraindications: 1. Patients with thrombophlebitis or with a history of thrombophlebitis or pulmonary embolism. 2. Liver dysfunction or disease. 3. Patients with known or suspected carcinoma of the breast or genital organs. 4. Undiagnosed vaginal bleeding.

Warnings: 1. Discontinue medication pending examination if there is sudden partial or complete loss of vision or if there is a sudden onset of proptosis, diplopia, or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn. 2. Since the safety of Norinyl-1 in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods, pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule, the possibility of pregnancy should be considered at the time of the first missed period. 3. Detectable amounts of the active ingredients in oral contraceptives have been identified in the milk of mothers receiving these drugs. The significance of this dose to the infant has not been determined.

Precautions: 1. The pretreatment physical examination should include special reference to breast and pelvic organs, as well as a Papanicolaou smear. 2. Endocrine and possibly liver function tests may be affected by treatment with Norinyl-1. Therefore, if such tests are abnormal in a patient taking Norinyl-1, it is recommended that they be repeated after the drug has been withdrawn for 2 months. 3. Under the influence of estrogen-progestogen preparations, preexisting uterine fibroids may increase in size. 4. Because these agents may cause some degree of fluid retention, conditions that may be influenced by this factor, such as epilepsy, migraine, asthma, cardiac, or renal dysfunction, require careful observation. 5. Although a cause and effect relationship has not been established, Norinyl-1 should be used with caution in patients with a history of cerebrovascular accident. 6. In relation to breakthrough bleeding, as in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In cases of undiagnosed vaginal bleeding, adequate diagnostic measures are indicated. 7. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. 8. Any possible influence of prolonged Norinyl-1 therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. 9. A decrease in glucose tolerance has been observed in a small percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Norinyl-1 therapy. 10. Because of the occasional occurrence of thrombophlebitis and pulmonary embolism in patients taking oral contraceptives, the physician should be alert to the earliest manifestations of the disease. A cause and effect relationship has not been demonstrated. 11. Because of the effects of estrogens on epiphyseal closure, Norinyl-1 should be used judiciously in young patients in whom bone growth is not complete. 12. The age of the patient constitutes no absolute limiting factor, although treatment with Norinyl-1 may mask the onset of the climacteric. 13. The pathologist should be advised of Norinyl-1 therapy when relevant specimens are submitted.

Side Effects: The following adverse reactions have been observed with varying incidence in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms, breakthrough bleeding, spotting, change in menstrual flow, amenorrhea, edema, chloasma, breast changes (tenderness, enlargement and secretion), loss of scalp hair, change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately postpartum, cholestatic jaundice, erythema multiforme, erythema nodosum, hemorrhagic eruption, migraine, rash (allergic), itching, rise in blood pressure in susceptible individuals, mental depression.

The following occurrences have been observed in users of oral contraceptives. A cause and effect relationship has not been established: thrombophlebitis, pulmonary embolism, neuroocular lesions.

The following laboratory results may be altered by the use of oral contraceptives: creased bromsulphalein retention and ot hepatic function tests, coagulation tests crease in prothrombin, factors VII, VIII, IX X), thyroid function (increase in PBI and b nol extractable protein-bound iodine and crease in T^3 values), metapyrone test, pregn diol determination.

Other side effects reported to have occu in association with use of this drug are ness, hirsutism, pains in legs, back, chest abdomen, dysuria, drowsiness, vaginal charge, libido increased and decreased, tions, hypermenorrhea, hypomenorr increased appetite, G.U. infections, vari veins, abdominal fullness, acne, head nervousness, allergies, blurred vision, pai eyes, and itching in eyes. *For complete cli data, see package insert.*

Dosage and Administration: 1. One tabl Norinyl-1 is administered orally for 20 beginning on day 5 of the menstrual (Count day 1 of the cycle as the first do menstrual bleeding.) Repeat this dosage s ule for each cycle. 2. If no menstrual p occurs after a cycle of treatment (20 table which patient adhered to the schedule, th tient must be instructed to resume takin Norinyl-1 tablets 7 days after the previo day course was completed. For example, last pill of a previous cycle had been tak a Sunday, then a new cycle of treatment sl begin on the following Sunday. 3. In the partum woman, it is recommended tha first cycle of treatment should begin on of the first menstrual cycle. However, Nor should not be administered during lactatio

Availability: Norinyl-1 (norethindrone with mestranol 0.05 mg.)—Dispensers of 2 60 and bottles of 250 tablets.

norethindrone — an original steroid from

SYNTEX

LABORATORIES INC., PALO ALTO, CALIF.

In Virginia . . .

These Syntex men serve the physician

Garland V. Greene, Jr.
High Point, North Carolina
882-0277

John Mullikin
Queenstown, Maryland
827-8217

Richard Trimble
Richmond, Virginia
270-1228

Richard Voigtsberger
Virginia Beach, Virginia
340-4031

SYNTEX
LABORATORIES INC. PALO ALTO, CALIF

INFLAMMATION:
A cellular fight for life

A SYNTEX REPORT based on recently developed hypotheses about topical corticosteroids, including the cellular theories of inflammation by Thomas F. Dougherty, Ph.D., University of Utah.

You are looking at a fibroblast fighting for life. This cell—one of the most common found in connective tissue—has literally been poisoned by cytotoxins released from other cells that have ruptured. Soon, if the abnormal activity of this fibroblast does not cease, it, too, will rupture and die—one more casualty in the inflammatory wave of destruction precipitated by injury.

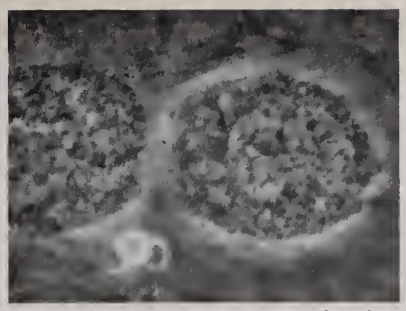
Until a short time ago no one had ever witnessed such a scene at the cellular level. Now, through advanced cinemicrographic techniques, it is possible to view and photograph the inflammatory process as produced experimentally in living animal tissue. This method permits new insight into the mechanism of inflammation and the role of corticosteroids in therapeutic management. Equally important, these techniques shed new light on factors that may make one corticosteroid more effective than another—factors that can be correlated with other chemical, biologic, and clinical parameters.

Visual evidence of how corticosteroids influence the inflammatory reaction

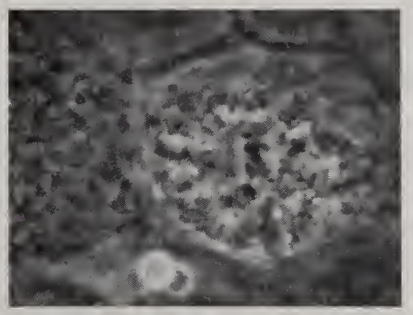
Working with phase-contrast cinemicrography on living animal tissue, Doctors Thomas F. Dougherty and David Berliner of the University of Utah College of Medicine have actually filmed cellular events that occur during the inflammatory reaction. This remarkable study* and additional work by these investigators, as well as by others, have established a new theoretical biologic basis for the antiinflammatory effect of the corticosteroids. (It must be noted that other theories, such as the lysosome or so-called "suicide bag" theory, have been postulated, although it is quite likely that there are more similarities than differences among the various theoretical models.)

The inflammatory wave of destruction

In this investigation an injurious injection of gelatin is used to set off an inflammatory reaction in living mouse tissue. What follows is a wave of destructive cellular activity that comprises the inflammatory response to injury. Mast cells (which contain heparin, serotonin and histamine) take up water, swell and rupture, releasing their contents, which are toxic outside the mast cell wall. These toxins, in turn, cause disintegration of other cells (such as fibroblasts) and the release of additional toxic material. Capillaries, too, take up water and leak unformed blood elements, causing edema. And polymorphonuclears, lymphocytes and perithelial cells invade the inflamed site. As a result of all these changes, the cellular environment reaches a state of turmoil.



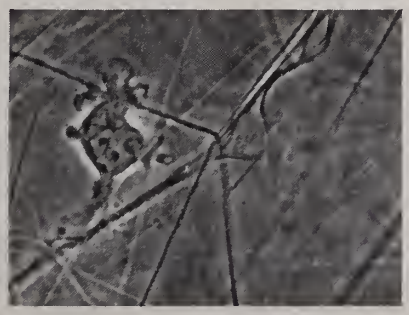
Phase-contrast microscopy showing mast cell before injury.



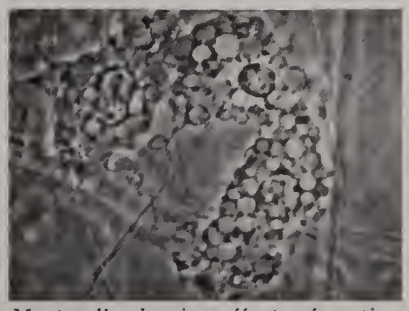
Mast cell (after injury) has broken up and released cytotoxins.

How corticosteroids change the picture

Corticosteroids appear to virtually stop the abnormal cellular activity that constitutes the inflammatory reaction. This permits the body's natural resources to clear up the inflamed area and repair the damaged tissue. This interpretation is supported by the fact that when the injurious gelatin solution is injected simultaneously with a corticosteroid — Synalar (fluocinolone acetonide) — the inflammatory pattern simply does not develop.



Fibroblast in high state of activity, much distorted.



Mast cells showing effects of corticosteroid action: cells are normal in size, shape and activity.

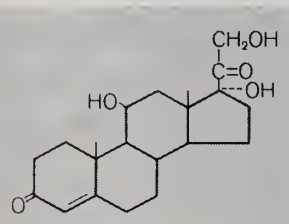
In summarizing his study Doctor Dougherty states: "...we also feel this work may explain why one corticosteroid helps a patient more rapidly and effectively than another. If it does, it is because one corticosteroid is the fastest, most effective inhibitor of the series of inflammatory events at the tissue level."

A New View of Corticosteroid Action in Inflammatory Dermatoses, a film based on this study, is now available from your Syntex representative.

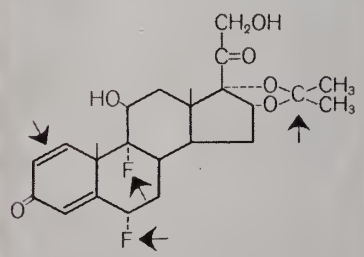
See last page for contraindications, precautions, side effects and dosage.

How advances in chemical design have achieved greater steroid potency

The chemical modification of corticosteroid molecules from the advent of hydrocortisone to the development of Synalar (fluocinolone acetonide) is a prime example of how biochemists can "design" to increase therapeutic activity and minimize undesirable side actions. Below, for example, we see the important changes that were made in reference to the hydrocortisone molecule to produce fluocinolone acetonide, one of the most active of all topical corticosteroids. As a result, a 0.01% preparation of Synalar (fluocinolone acetonide) has been reported to do the work of a 1% hydrocortisone product containing 100 times more cortiscosteroid. And it can often do it more effectively.



Hydrocortisone

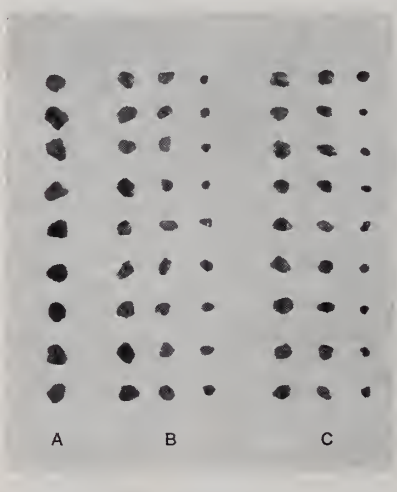


Fluocinolone Acetonide (Synalar)

- *a double bond between carbons 1 and 2*
- *fluorine substitutions at* both *the 6-α, and the 9-α positions*
- *the addition of the acetonide at the 16-α, 17-α positions, thus providing one of the most potent topical corticosteroids available.*

How bioassay tests are used to "predict" therapeutic potential

Biologic assays are another tool used by researchers to help establish the relative activity of corticosteroids. To date no single method of assaying corticosteroid activity has emerged as the ideal "yardstick" for predicting therapeutic potential. Taken together, however, these methods have proved useful. When such tests are run on various corticosteroids, a definite order of corticosteroid activity becomes evident. Compounds with the highest order of activity may be expected to merit clinical trial to establish their high therapeutic potential. When assayed by these methods, fluocinolone acetonide (Synalar) emerges as one of the most active topical corticosteroids, milligram for milligram, available for clinical application today.



THE THYMUS INVOLUTION ASSAY[1-4] is run on adrenalectomized rats. The sizes of the glands are measured, and the degree of involution caused by the steroid is determined as an indication of its potency. In the above photo, the comparative involution of thymus glands achieved with hydrocortisone and Synalar (fluocinolone acetonide) is shown. Untreated controls (A) show normal size. Group B – injected with 1, 2 and 4 mg. of hydrocortisone – show progressively smaller thymuses as does Group C – injected with fluocinolone acetonide – but with only 1/500th the dose of hydrocortisone.

THE ANTIGRANULOMA ASSAY[1-4] also utilizes adrenalectomized rats. Granulomas are induced by subcutaneous implantation of cotton pellets on either side of the thorax. The degree of granuloma inhibition achieved by a steroid reflects its potency. The above photo shows the inhibition of granuloma formation achieved with hydrocortisone and Synalar (fluocinolone acetonide). Untreated controls (A) show large, red granulomas adhering to the pellets. Group B, receiving hydrocortisone and Group C, receiving fluocinolone acetonide, show little, if any, granuloma formation. Fluocinolone acetonide produced the same effect as hydrocortisone with only 1/500th the dose. This assay, as well as the thymus involution assay, measures systemic rather than topical corticosteroid activity. Nevertheless, results by these methods correlate well with other assays and with the milligram potencies of topical steroids in current clinical use.

Worldwide clinical experience confirms the predictable therapeutic potential of Synalar

It is particularly gratifying that the promise of the advanced chemical design and high order of bioassay activity of Synalar (fluocinolone acetonide) has been confirmed by widespread therapeutic application. Indeed, the impressive clinical response rate of Synalar has been documented in no fewer than 232 papers from 22 countries.

Representative Clinical Results with Synalar*

Efficacy Documented in over 4,000 Patients

Condition	Number of Publications	Number of Patients	Significant Improvement†
Contact Dermatitis	27	750	713
Eczematous Dermatitis	21	472	409
Seborrheic Dermatitis	18	442	426
Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
Total	144	4,174	3,808

*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

PRESCRIBING INFORMATION

For initiation of therapy: Cream 0.025%, 5 and 15 Gm. tubes, 425 Gm. jars; *for emollient effect:* Ointment 0.025%, 15 Gm. tubes; *for maintenance therapy:* Cream 0.01%, 15 and 45 Gm. tubes, 120 Gm. jars; *for intertriginous or hairy sites:* Solution 0.01%, 20 cc. and 60 cc. plastic squeeze bottles; *for infected inflammatory dermatoses:* Neo-Synalar® Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes.

CONTRAINDICATIONS: Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components. PRECAUTIONS: Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. SIDE EFFECTS: Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

REFERENCES: 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. Ann NY Acad Sci 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. Proc Soc Exp Biol Med 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: Methods of hormone research, New York, Academic Press, 1964. vol. III. pp. 234-280. 4. Gubersky, V. R.: To be published.

fluocinolone acetonide — an original steroid from

SYNTEX

LABORATORIES INC., PALO ALTO, CALIF.

For inflammatory dermatoses... by any measure a topical corticosteroid of choice

Synalar® (fluocinolone acetonide)

Milligram for milligram one of the most active topical corticosteroids available

Rapid and predictable in antiinflammatory and antipruritic activity

Results often comparable to those of systemic corticosteroids with fewer hazards

for
quick relief
that lasts
and lasts
Co-Pyronil®
Pyrrobutamine Compound
1 PINT (473 cc.)
M-87
SUSPENSION
CO-PYRONIL
PYRROBUTAMINE
COMPOUND
100 No. 336
PULVULES
CO-
PYRONIL
PYRROBUTAMINE
COMPOUND
000
Lilly
PULVULES
CO-PYRONIL
PYRROBUTAMINE
COMPOUND
Pediatric
Lilly
Additional information available to physicians upon request. ELI LILLY AND COMPANY, INDIANAPOLIS, INDIANA 46206.
Lilly
700207

The Virginia
MEDICAL MONTHLY

May, 1967
Vol. 94, No. 5
Whole No. 1380

Guest Editorial . . . .

From Atelectasis to Emphysema

A Story of Serendipity, and an Extra Step in Physical Examination

IN THE YEAR 1929, while at the Medical College of Virginia, I made the diagnosis of pneumonia on two children—one child had been badly injured, the other had had measles. I was startled to learn from the x-ray department that they had "massive atelectasis". Not being familiar with that term, I hastened to read what articles I could find on the subject. The most likely explanation of the pathogenesis was that postoperative pain, sedation, toxemia, etc., caused a suppression of coughing, and sputum collected in the bronchial tubes. If a main bronchus became blocked, the air remaining in the affected lobe was absorbed. This created a negative pressure which pulled on the plug and the surrounding structures and collapsed the lobe.

When I was a house officer at the Massachusetts General Hospital, it was my good fortune to serve under Dr. Frederick T. Lord, who was a real artist at physical examination of the chest. His rapidly progressive finger tip percussion, from resonance to dullness or vice versa, would reveal the border between the two areas, which he would mark with a pencil. It didn't take me long to change over to his method of percussion.

On the possibility that atelectasis or bronchial blockage in varying degrees might be present in many seeming pneumonias in childhood, I decided to try heavy flat hand percussion of the chest to loosen the sputum, and then a cough—induced, if necessary—to get it out. A few trials convinced me that I had found a simple and harmless method for both differential diagnosis and treatment of these conditions. Examination before and after such treatment revealed changes which were easy to detect and which gave information not otherwise available.

After the sulfa drugs and antibiotics arrived, bacterial lung infections became easier to treat and apparently fewer in number. My procedure was less needed for treatment, but lost no diagnostic value.

Percussion of the chest of newborn infants is often done poorly or not at all. The finger tip percussion described above generally reveals some resonance over the upper lobes at the first examination. This resonance gradually spreads as the rest of the lung opens, so that in a day or so

most of the lung area has become resonant. Most normal term babies pass through this change with little trouble. Prematures and ill babies are often not so fortunate. So I make it a practice to percuss the chests of all newborn infants to see how much resonance is present. Then I use heavy flat hand percussion (two finger percussion for tiny infants). Usually the dull areas become resonant in two to four minutes and breath sounds become normal. Apparently the alternating compression and rebound of the chest wall sucks air into the previously closed alveoli without pain, danger or delay.

Several years ago I began to notice localized emphysema while examining patients, and about five years ago came to the conclusion that the emphysema was usually lobar emphysema. That diagnosis implied that there was a valve-like blockage in the main lobar bronchus. Subsequent studies, using Medihaler Duo or some similar preparation, revealed that one inhalation would open the obstruction in a minute or so unless the obstruction was due to a foreign body or outside pressure. This suggested a localized edema or spasm, or both, in the main bronchus.

The International Medical Digest Service sent me several abstracts of reports of Lobar Emphysema in early infancy—a rare and dangerous disease obviously different from what I had been observing—and only one article which described a check valve type of main bronchus obstruction. Clinical observation over the past five or six years has shown that, except for aspirated foreign bodies or cases with compression of the bronchus by tumors, etc., practically all of the other cases of lobar emphysema of the right, middle and lower lobes have been associated with viral infections, almost certainly viremias. Waves of "intestinal flu", which appear several times a year and probably indicate infection from different types of viruses, have been associated with lobar emphysema in every case I have examined. Many newborn infants, whose mothers were exposed to or had the disease before the baby was born, have had lobar emphysema of the right, middle, and lower lobes at the first examination with the refill time after heavy percussion similar to that prevailing in the community at the time the infection was acquired. This viral type of emphysema hangs on for several weeks, or months in some cases, after the onset. There is no pain, but some shortness of breath may be felt on exertion, by some persons.

Lobar emphysema of the right, middle, and lower lobes also occurs consistently with measles, atypical bronchitis, and pneumonitis, and after taking live polio vaccine for the first time. In the spring of 1964, after three doses of Sabin oral polio vaccine had been given to most of the citizens of Richmond, Virginia, and suburbs, I examined over a thousand school children, one room a day. Most of these children had lobar emphysema of the right, middle, and lower lobes. From March 19 to June, these children were asked whether or not they had taken polio vaccine at the clinics. There was almost 100% correlation between the taking of the live vaccine and the occurrence of lobar emphysema. Three children who had taken Trivalent oral polio vaccine in October, 1963, did

not have lobar emphysema after taking the single doses of live vaccine at the clinics, when examined in March. Previous Salk vaccine immunization did not prevent the occurrence of lobar emphysema after taking the live vaccine.

The diagnosis of this type of lobar emphysema depends primarily on percussion. Finger tip percussion reveals that the right, middle, and lower lobes are hyperresonant to the full physiological limits of inspiration. Heavy flat hand percussion will drive the air out and flatten the whole lobe. Reexamination by diagnostic percussion will then reveal the striking change which was caused by the heavy percussion. Auscultation may reveal diminished breath sounds over the right side of the chest, and especially over the right lower lobe after the air has been expelled, but auscultation alone is not sufficient for the diagnosis of lobar emphysema. X-ray examination also has not been diagnostic for this type of lobar emphysema, so it is easy to see why lobar emphysema is usually not found.

The lobar emphysema associated with "intestinal flu" and live polio vaccine seems to be caused by a tight block in the main bronchus, as the flattened lobes require 10 to 20 minutes to become resonant again. The occurrence of a small epidemic of bronchitis while the school children were being examined revealed that the bronchitis seemed to loosen the obstruction in the bronchus so some refilling could be found in a minute or so. In some cases, refilling was fast enough to produce a localized wheeze. Subsequently two epidemics of "atypical" bronchitis, or pneumonitis, have occurred. Examination of these cases showed that lobar emphysema with the rapid type of refill occurred regularly with these infections, and often the lobar emphysema could be found before rales appeared. This helped greatly with the early diagnosis.

Failure to find lobar emphysema when it is looked for properly also helps in differential diagnosis because the absence of lobar emphysema is strong evidence against the viral disease in question if that disease characteristically causes lobar emphysema.

Encountering two cases of "massive atelectasis" in 1929, and deciding to try heavy percussion of the chest, plus cough and reexamination, to look for changes of physical findings, started me on a medical journey productive of many pleasant surprises which resulted from the use of these extra steps in physical examination. Attempts along the way to record my experiences in medical literature have not been so successful. Apparently the editorial guardians of the medical archives, who were not acquainted with my procedure and its possibilities, wanted more concrete evidence than my private practice could provide, to make my "Adventures in Wonderland" seem as real as they were.

Basil B. Jones, M.D.

526 North Boulevard
Richmond, Virginia

Dermoid Cysts of the Nose in Children

CHARLES E. HORTON, M.D.
JEROME E. ADAMSON, M.D.
HUGH H. CRAWFORD, M.D.
LEONARD H. BROWN, M.D.

Dermoid cysts must be considered in the differential diagnosis of tumors of the nose. Seen most frequently in children, proper surgical treatment is necessary to prevent trouble as growth progresses.

TUMORS OF THE NOSE present an interesting and difficult diagnostic and therapeutic problem. Dermoid cysts of the nose represent a type of nasal tumor seen most frequently in pediatric patients, and, which if unrecognized, may prove troublesome as growth of the individual progresses. Although less than 150 cases of dermoid cysts of the nose have been reported in the literature, these figures undoubtedly do not represent the true occurrence of this congenital anomaly for many cysts go unrecognized, incorrectly diagnosed or unreported. Proper treatment of this condition demands early recognition and care in order to prevent future complications and growth disturbances.

In 1829 Dieffenbach reported the first known case of a dermoid cyst of the nose.[1] The first case described in the American literature was reported by Barkett in 1901.[2] In 1937 New and Eric reported a total of 1495 dermoid cysts of the body and found that 6.9% of these dermoid cysts involved the head and neck.[3] Holmes in 1922 and Ryan in 1948 pointed out that, while not usual, it was possible for these lesions to enlarge slowly and not necessarily present early in life.[4,5] An apparent two to one predominance in males has been recorded by several authors.[6] We have treated twelve cases of dermoid cyst of the nose in pediatric age patients. Eight of these were in males, four were in females. Two had been operated previously elsewhere, and the cyst had recurred. One cyst presented intranasally and had been previously drained as an "abscess".

The appearance of ordinary dermoid cysts of the nose may be varied, although they most commonly present as a single, painless cystic swelling or enlargement in the midline of the nose. Often one will find associated with the mass one or more minute fistulae or even blind pits and indentations. Small hairs may protrude from the orifices of these fistulae and may be the only diagnostic feature of the lesion. Occasionally a dermoid cyst may become infected and will present as an inflamed and painfully enlarged mass which may open spontaneously to the surface. Purulent material may drain from such a sinus tract when infection occurs in the cyst. Recurrent or infected cysts may appear following inadequate treatment. Occasionally these cysts present inside the nasal cavity producing a problem in which the diagnosis is quite difficult.

On examination the typical cyst is fixed to the deeper structures below the subcutaneous tissue while the skin usually moves freely over its surface. Because of the thick material present in the typical cyst, transillumination is difficult. X-ray examination of the nose and surrounding bony structures may reveal evidence of bone destruc-

From the Plastic Surgery Service of Norfolk General and DePaul Hospitals, Norfolk Medical Center, Norfolk, Virginia.

tion or separation of the nasal bones from distortional growth of the cyst. Microscopically, the sinus tract and cyst are lined with stratified squamous epithelium which contains hair follicles, sweat and sebaceous glands. A thick fibrous tissue wall with elements of inflammation may also be present, depending on the clinical history of the case. At surgery, dermoid cysts are recognized grossly by a typical thick wall and by the keratin and sebaceous-like material and hair present within the cyst or sinus tract.

The differential diagnosis of a dermoid cyst may be difficult for it must include sebaceous cysts, lipomata, hemangiomata, inclusion or implantation cysts, furuncles and localized abscesses. Other tumors of the nose, encountered less frequently, are nasal gliomas, meningoceles, encephaloceles, and very rarely an aberrant ethmoidal sinus. Obstruction of the nasal-lacrimal system may also produce a cystic enlargement at the inner canthus of the eye. A sebaceous cyst is usually not attached to the deeper structures and does not have hair protruding through its punctum. A lipoma is soft, not cystic, and is freely movable both superficially and deep. The typical cavernous hemangioma commonly produces a bluish gray color beneath the skin and will ordinarily distend with crying or other maneuvers which produce increased venous pressure. Inclusion cysts may be suspected when there is a history of trauma in the area and when scarring is present in the skin. Abcesses show typical signs of infection and have a history of very short duration. Other more rare lesions are usually extensions from the cranium and are frequently associated with defects of the skull. Skull x-rays may prove diagnostic for the more rare lesions of encephalocele, meningocele and gliomas. Although a preoperative diagnosis of dermoid cyst cannot always be certain, the diagnosis should be kept in mind when the clinical features strongly suggest its presence and a major surgical exploration should be planned. The potential of this lesion should be carefully explained, and preparation for surgery, with general anesthesia, should be completed. The family should be instructed that dermoid cysts may frequently be much more extensive than anticipated preoperatively and may require surgery of great magnitude to extirpate the entire cyst and prevent future recurrences. (Fig. 1—A & B)

Fig. 1. Typical dermoid cysts of nose.

Embryology

Several theories have been considered to explain the development of dermoid cysts which may be formed in many ways. No one theory completely explains their occurrence. The development of the human face occurs primarily between the fifth and eighth week of intrauterine life. In early fetal life the fronto-nasal process represents the major portion of the anterior head. The

olfactory pits which are placed laterally on the fronto-nasal process are surrounded by prominent medial and lateral nasal processes. Below and lateral to the fronto-nasal process on each side the maxillary processes arise from the first branchial arch. In the development of the face, the maxillary processes grow medially and fuse with the medial and lateral nasal processes which have previously fused with each other. The lower portion of the fronto-nasal process then elevates slowly to form the greater part of the dorsum and apex of the nose.

The various components of the embryonic face probably fuse first by the junction of thin strands of ectoderm. This ectodermal tissue is then replaced by indifferent mesenchyme as the processes coalesce. Persistent buried epithelial cell masses along the lines of fusion may give rise to epithelial pearls, or cysts, at any point. Some congenital dermoid cysts are probably formed by the inclusion of a rudiment of epithelium during the closure of these embryonic clefts or fissures, and for this reason are sometimes termed "sequestration dermoids". The possibility that these structures may arise from vestigial epithelial lined structures has also been proposed. Another theory of formation is based on the fact that the anterior wall of the nose in early development consists of a single plate of cartilage covered externally by connective tissue and skin, this connective tissue being an extension of the dura. The intramembraneous formation of the fronto-nasal bone takes place between the cartilaginous plate and the newly formed nasal bones in what is called the "pre-nasal" space. After birth the cartilage disappears at all points where it comes in close proximity with bone, with that portion ventral to the nasal bones persisting as the lateral nasal cartilages. A nest of displaced ectoderm in the pre-nasal space may result from incomplete separation of the skin or ectoderm and the dural connective tissue. This tissue may form a dermoid cyst.[7]

Treatment

All dermoid cysts require complete and total surgical removal to effect a cure. If any small portion of the lining membrane is left intact, a recurrence of the cyst may be expected. Since the majority of the cysts are located quite superficially, simple excision only is required in most cases. Occasionally, however, the cyst may be extensive, having a relatively simple appearing external opening, yet possessing a lining membrane which extends beneath the skin of the nose to involve the septal cartilage and nasal bones near the cribriform plate. These tracts may have a length of several centimeters and be densely adherent to the nasal bones and septum.[8,9]

Techniques for the injection of the sinus tract with dye prior to surgery to facilitate identification and with radio-opaque material for preoperative x-ray studies have been described. We do not feel that these measures are of great value, for it is usually not difficult to follow the easily recognizable tract to its termination, whether the termination be superficial in the subcutaneous tissue or deep in the bony septum of the nose.

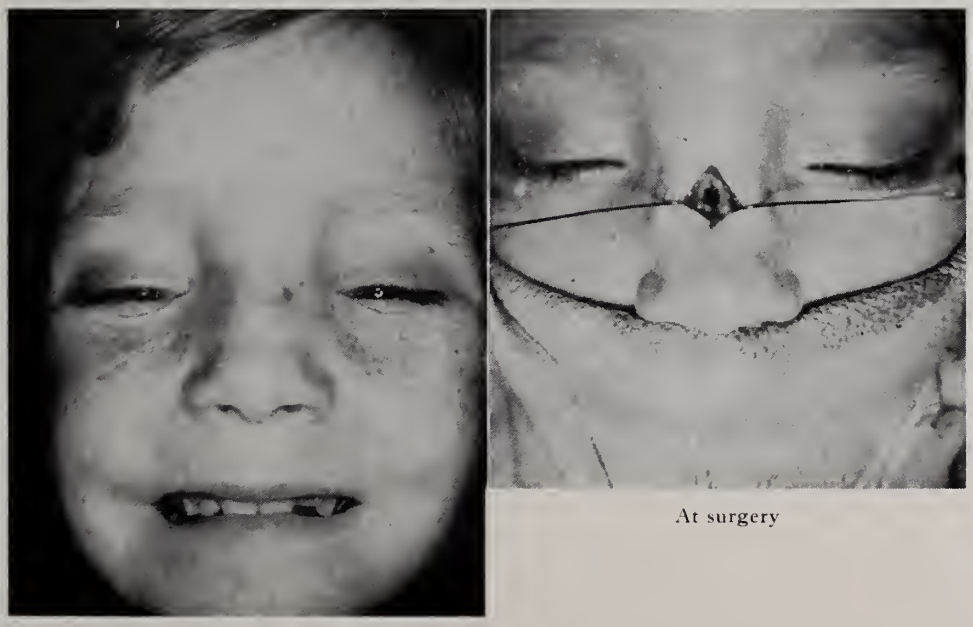
The complete removal of an extensive dermoid lesion may produce some deformity of the nose. Although it is rarely necessary to fracture the nasal bones from the frontal bone and septum, this may occasionally be required in order to obtain more space for a deeper and complete dissection of the cyst or sinus tract. The usual surgical approach employed by our group is a vertical midline elliptical incision unless we find the fistulous opening of the cyst located to one side of the nose. It is impossible to tell preoperatively how high this incision must be carried and it is occasionally necessary to open the entire length of the nose to expose the cyst and remove the lesion. Rarely it may be advantageous to use multiple transverse incisions on the dorsum of the nose; however a single vertical incision has given the best cosmetic results in our hands, and has al-

lowed adequate exposure in most cases. If a large cyst has produced defects in the adjacent nasal or facial structures, it may be possible to correct such defects at the time of the removal of the cyst, if no infection is present. In many cases, particularly in children, the secondary deformity will correct itself in part over a period of time; therefore a definitive repair of the deformity may best be deferred until one is certain that the dermoid cyst has been completely removed and that all the correction expected with growth has occurred. Dermoid cysts which are not completely removed will reappear, enlarge and the potential of recurring infection will always be present. In our series of twelve cases, we have had no recurrence following adequate surgical resection of the lesion.

In most instances this tumor is not diagnosed at birth but as a result of progressive and persistent slow growth the diagnosis is made at a routine pediatric examination in the pre-school years. When the diagnosis is made after infancy, it is best to plan elective surgery at an early date since the potential of infection is always present and the adjacent facial structures can be distorted or deranged by the enlarging cystic mass. (Figs. 2 and 3)

Summary and Conclusions

1. The characteristic features of dermoid cysts of the nose are described.
2. A differential diagnosis of nasal tumors is given.



At surgery

Preoperative

Fig. 2. Dermoid sinus tract of nose. Note extension between nasal bones at surgery.

We do not recommend an immediate operation when a dermoid cyst is diagnosed at birth but would instead advise observation of the area to determine if rapid growth occurs. If the growth is rapidly progressive, we feel that early surgery should be instituted. However, in the usual case, it is preferable to wait until the child is six months or older before elective surgery is considered.

3. The theories of the embryological development of dermoid cysts are discussed.
4. Proper surgical treatment is discussed and the importance of being prepared for major extensions of the dermoid cyst is emphasized.
5. Typical cases of dermoid cysts of the nose are presented.

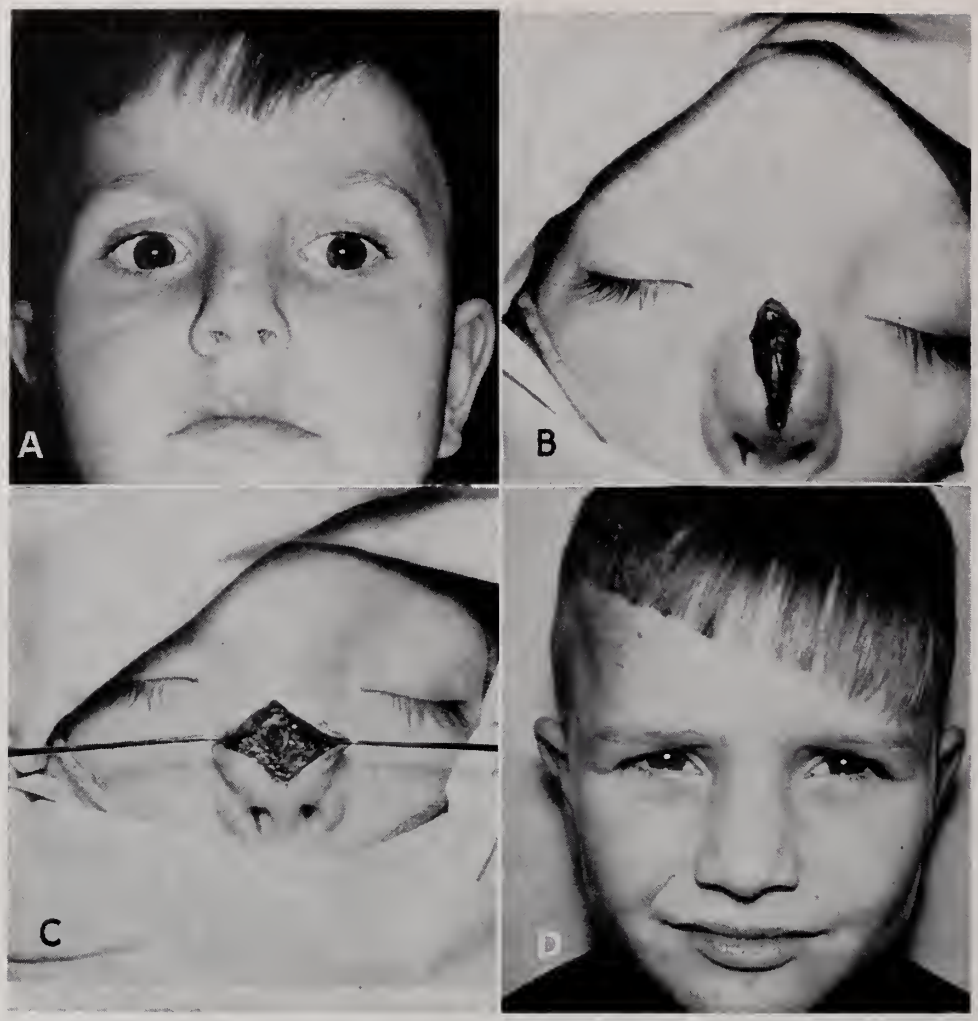


Fig. 3

A. Preoperative
B. At surgery with cyst and sinus tract exposed.
C. Cysts and sinus tract removed. Note involved cartilage and bone of nose.
D. One year postoperative.

BIBLIOGRAPHY

1. Erich, J. B.: Sebaceous, Mucous, Dermoid and Epidermoid Cysts. Am. J. Surg. 50:672-677, Dec. 1940.
2. Birkett, H. S.: Report of Two Cases of Dermoid Cyst of the Nose. New York M. J. 73:91-94, Jan. 19, 1901.
3. New, G. B. and Erich, J. B.: Dermoid Cysts of Head and Neck. Surg. Gynec. and Obst. 65: 48-55, July 1937.
4. Holmes, E. M.: Dermoid Cysts of Nose. Ann. Otol. Rhinol. and Laryng. 51:662-670, Sept. 1942.
5. Ryan, A. J.: Dermoid Cyst of the Bridge of the Nose. Connecticut M. J. 12:218-221, Mar. 1948.
6. Crawford, H. H., Maguire, C., Georgiade, N., and Pickrell, K.: Dermoid Cysts of the Nose: A Presentation of Seven Cases. Plastic and Recon. Surg. 16:237-245, Oct. 1955.
7. Brunner, H. and Donnelly, W. A.: Nasal and Auricular Fistulae. Plastic and Recon. Surg. 2:497-504, May 1948.
8. Crawford, K. and Webster, J. P.: Congenital Dermoid Cysts of the Nose. Plastic and Recon Surg. 9:235-260, March 1952.
9. Champion, R. and Prendiville, J. B.: Dermoid Cyst of the Nose. Br. J. Pl. Surg. V: No. 2, July 1952.

---

603 Medical Tower
Norfolk, Virginia

Handling Personal, Confidential Information

JAMES P. KING, M.D.
Radford, Virginia

Code reporting of psychiatric diagnoses is helpful in preparing medical reports.

PEOPLE TALK more about their personal lives to their doctors than to any other professional group, including the clergy. Most of what is told the doctor becomes a matter of record, and there are many situations in which the transmission of this record to any other person becomes a matter of discretion. The psychiatrist, in particular, extracts a mass of data about the individual's life. He must do this, if he is to help the patient. The psychiatrist also delves into the sub-conscious and unconscious mind and gathers personal material which is of such a nature that it requires even more protection than the general mass of medical and surgical material involved in other medical practice.

The reason for my article is in connection with the question of when we may and may not divulge medical and, in my case particularly, psychiatric information about a patient and his family who are also often involved.

In our 140-bed accredited private psychiatric hospital, the confidential nature of the patient's clinical record is perhaps protected even more than might be the case in a general hospital. This is necessary because many very personal matters about the patient and the patient's family are included in our records that would not occur in a strictly medical record. One of the advantages of a private psychiatric hospital is that of potential preservation of the patient's privacy. To preserve this, we have, throughout the years, required our medical director to review and pass upon every request received for release of information by any patient who has been under our care. The medical director determines the desirability of release of each record, irrespective of the legal and written permission to do so. Our complete record is seldom furnished the referring physician because the record has, on occasion, come into the possession of the patient with embarrassing consequences. With a proper release, we may send our full record to attorneys at law, and the patient's record may, as a rule, safely go to psychiatrists, psychiatric hospitals, and agencies who have legitimate reason for the information. It has been our experience over a considerable length of time that insurance companies generally preserve the confidential nature of a psychiatric record.

Physicians in Virginia have no definite law as to privileged communications. Over a period of many years, however, we have steadily refused to permit the patient to see a copy of his own record, for obvious reasons. For example, not so long ago, a recently-discharged female patient came into our office, in a stormy mood and said, "What do you mean calling me a schizophrenic, and a paranoid one at that"? About a week before, we had sent her insurance data to the office of the company where she was employed and on her return home, she had, in some way, obtained this information and was, of course, thoroughly upset.

Several experiences of this nature have prompted our Hospital to insert on the line of the insurance form asking for the diagnosis, the code number only, omitting the full descriptive diagnosis. For example, the code number taken from the "Standard

Nomenclature of Diseases and Operations", widely used throughout the country, for schizophrenic reaction, paranoid type, is 000-x24. We use a rubber stamp on these forms stating that the code number is being employed to preserve the confidential nature of the report, referring to the diagnostic manual and instructing the district office to consult its medical director, if assistance is needed.

When we began this system, some of these reports were returned to us for clarification, others were accepted without question and, in general, the insurance companies who have a medical director, have cooperated with us.

It is the consensus in our Hospital that the majority of psychiatric diagnoses should be reported to others only by code numbers. Of course, this method would require standardization of one code system. At present, the AMA publishes the "Standard Nomenclature of Diseases and Operations"; the APA has the "Statistical Manual of Mental Disorders", and the American Hospital Association advocates the use of the "International Nomenclature of Diseases and Operations". Obviously, three systems of reporting diseases and operations cannot continue to exist without confusion and chaos, and eventually one will probably emerge as the classification of choice.

Code reporting of psychiatric diagnoses has been under consideration by a committee of the Association of Life Insurance Medical Directors for quite some time. This committee recognizes the desirability of precise and uniform diagnostic reporting by psychiatrists and institutions. Wide acceptance on the part of the reporting physicians would, they say, be necessary; their field and home office personnel would have to be indoctrinated and reference code books placed in the hands of the proper adjudicating officers of the insurance carrier.

A recent sampling of medical directors of psychiatric hospitals all over the country revealed that approximately 50% favored the exclusive use of diagnostic code numbers. (Inquiries to approximately 200 hospitals) The remainder were either noncommittal, were against the method of code reporting or preferred the use of generalized diagnostic terms like "acute or chronic emotional disorder" or "acute or chronic mental disorder". These non-specific diagnoses have some advantages: they permit immediate processing of the patient's insurance claim while allowing more time for a definitive diagnosis.

There appears to be lively interest in the use of code numbers among psychiatrists in many private psychiatric hospitals. Several wrote me that they have used the method for years with splendid cooperation on the part of insurance companies and various agencies. I believe, however, that some time will elapse before the system will come into universal use. It seems appropriate to stress here the importance and necessity of preserving the confidentiality of all medical reports and specifically psychiatric information that contains so much intimate and personal information about the patient.

Saint Albans Psychiatric Hospital
Radford, Virginia

Pilonidal Cyst Arising in the Clitoris

ROBERT E. HARRIS, Capt., USAF, MC
JAMES W. DALY, Major, USAF, MC
Lackland, Texas

The successful treatment of a pilonidal cyst in an unusual location is reported.

PILONIDAL CYSTS are commonly encountered in the sacrococcygeal region, but rarely in the anterior median raphe.[7] Only two cases of pilonidal cyst of the clitoris[2,7] and four cases of suprapubic pilonidal sinus[3,5,6,10] have been reported previously. A patient with pilonidal cyst of the clitoris treated recently at Wilford Hall USAF Hospital is presented as the third known case of this entity.

Case Report

A 33-year-old Caucasian, para 2-1-0-3, complained of a tender mass in the suprapubic area and stated that it had been present for four months. She denied knowledge of trauma, infection, or drainage from this area. Her previous medical history was significant in that she had had a pilonidal cyst of the sacrococcygeal area marsupialized 17 years ago. The family history revealed that her father and brother had had similar pilonidal cysts marsupialized. Physical examination was entirely within normal limits except for the suprapubic mass, which was attached to the suspensory ligament of the clitoris and appeared to be arising in the clitoris. This mass was 5 cm. long, 3 cm. wide, and 2 cm. deep, rubbery-firm, and tender. Laboratory data included negative Frei test and skin tests for tuberculosis, coccidioidomycosis, histoplasmosis, and blastomycosis; and normal hemogram, sedimentation rate, urinalysis, and blood sugar; the x-rays of the symphysis pubis and chest were normal. At surgery the mass was excised and found to arise in the clitoris. The area surrounding the mass was adherent and scarred with evidence of old infection. The mass was severed from its connection to the clitoris, and a small hair was found projecting from the incised edge. On cut section, the specimen had a central core of dark red, necrotic appearing tissue and a cavity that contained a small amount of long, light brown hair with some purulent material. Microscopically, the tissue was consistent with that of a pilonidal cyst (Fig. 1-2). Postoperatively, the incision became infected, was opened, and subsequently healed secondarily.

Discussion

Initially, it was believed that the pilonidal cyst was a vestigium of the primitive medullary canal, generally found in the sacrococcygeal region.[2,7,10] However, the discovery of identical lesions on barbers' hands,[7-9] in the axilla,[1] and in the suprapubic area[3,6,10] has led to the consideration of other acquired etiologies, such as an invagination of the surface epithelium, and the in-growth of hair shafts followed by inflammation and subsequent inflammatory down-growths of the surface epithelium. Patey and Curry have postulated that these lesions originate in one of the clefts, such as the natal, interdigital and vulvar, and have only an inconspicuous primary opening. However, they also have a subcutaneous track to a more

From the Department of Obstetrics and Gynecology, Wilford Hall USAF Hospital, Aerospace Medical Division (AFSC), Lackland Air Force Base, Texas.

conspicuous secondary opening over an adjacent prominence, such as the back of the sacrum, the back of the hand, or the suprapubic region. With friction, collected hairs could be guided through this cleft, which would play an essential role in an acquired pilonidal sinus. Pathologically, these cysts have acute and chronic suppurative infections as well as buried hair shafts.[2,6] Squamous cell carcinoma can occur in a pilonidal sinus.[4]

Palmer's review of the literature contained only three previous reports of cysts of the clitoris, but none satisfied the criteria for pilonidal cysts. The only reported cases of pilonidal cysts of the clitoris[2,7] and three of the suprapubic pilonidal sinus cases[3,6,10] had in common an acute and a chronic

Fig. 1. Intense area of inflammation surrounds trapped epithelium. Above this epithelium in the center of the photograph is an area of hair fragments surrounded by inflammation (H&E stain, x520).

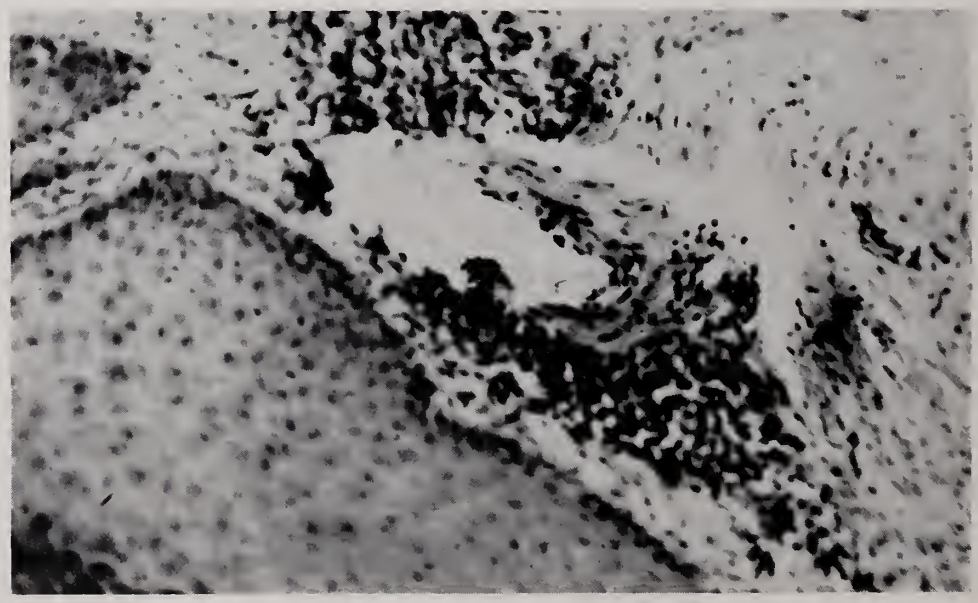


Fig. 2. Higher power view of the area of hair fragments and localized inflammation (H&E stain, x830).

exacerbating infectious process. The only case that was asymptomatic was the pilonidal sinus of the mons pubis.[5] Preoperatively, the present patient was believed to have a clitoral tumor. She had no previous history or clinical evidence of infection of the clitoral mass although examination of the specimen revealed the presence of acute and chronic inflammatory cells. It is of interest that at the age of 16 years she had had a pilonidal cyst of the sacracoccygeal area, as did the patient of MacLeod.

Whenever the diagnosis of pilonidal cyst is made, the treatment is meticulous removal of the entire structure in order to prevent recurrence. If it is not possible to excise the entire structure, it should be marsupialized. Probably it is best to allow the incision to heal by secondary intention,[2] as in the present case.

Summary

The theories of origin of pilonidal cysts have been reviewed. The third known case of pilonidal cyst of the clitoris is reported. This patient did not present with an infectious process, but a clitoral tumor. The differential diagnosis of clitoral and suprapubic masses should include pilonidal cysts although they are rare in this area. Treatment consists of surgical removal of the mass or marsupialization.

References

1. Aird, I.: Pilonidal Sinus of the Axilla. Brit. Med. J. 1:902, 1952.
2. Betson, J. R., Jr., Chiffelle, T. L., and George R. P.: Pilonidal Sinus Involving the Clitoris. A case report. Am. J. Obstet. Gynec. 84:543, 1962.
3. Crosby, D. L.: Pilonidal Sinus of the Suprapubic Region. Brit. J. Surg. 49:457, 1962.
4. Gaston, E. A., and Wilde, W. L.: Epidermoid Carcinoma Arising in a Pilonidal Sinus. Dis. Colon Rectum 8:343, 1965.
5. Ghosh, D. P., and Sanyal, J.: Pilonidal Sinus at Unusual Sites. J. Indian Med. Assn. 44:309, 1965.
6. MacLeod, R. G.: Pilonidal Sinus of the Suprapubic Region. Brit. Med. J. 1:710, 1953.
7. Palmer, E. Pilonidal Cyst of the Clitoris. Am. J. Surg. 93:133, 1957.
8. Patey, D. H., and Scarff, R. W.: Pathology of Postanal Pilonidal Sinus; Its Bearing on Treatment. Lancet 2:484, 1946.
9. Patey, D. H., and Scarff, R. W.: Pilonidal Sinus in a Barber's Hand, with Observations on Postanal Pilonidal Sinus. Lancet 2:13, 1948.
10. Patey, D. H., and Curry, R. C. Pilonidal Sinus Presenting in the Suprapubic Region of a Woman. Lancet 1:620, 1962.

---

726 Giles Court
Woodbridge, Virginia

The more resources we have within ourselves, the less we require of others; and it happens frequently that when we require least and are most self-sufficient, we receive largest of other people's interest, which would be withheld if we demanded it.—*Harriet U. Andrews*

Emphasis—Fibrinolysin

RICHARD F. BUNTING, M.D.
Richmond, Virginia
M. K. HUMPHRIES, JR., M.D.
Charlottesville, Virginia

Irrigation with a solution of fibrinolysin is the treatment of choice for removing a blood clot from the anterior chamber of the eye.

THE PURPOSE OF THIS PAPER is to briefly review both the history and the recent literature of fibrinolysin in the treatment of total hyphema. In addition, we wish to review a recent case experience in which this enzyme was used.

Prior to the advent of fibrinolysin, there was a notable lack of agreement regarding the treatment of traumatic hyphema and its most serious complication: total hyphema with associated glaucoma. The various accepted procedures of treatment as described in the literature have been:

Cycloplegics, bed rest, and cold compresses,[1]

Miotics along with paracentesis when the intraocular pressure was increased, or when there was no clear aqueous in the anterior chamber,[2]

Vitamin K, rutin, ascorbic acid, bilateral patching, and sedation,[3]

Early paracentesis with air injection into the anterior chamber,[4]

Repeated paracenteces,[5]

Carbonic anhydrase inhibitors,[6]

Immediate manual clot removal upon onset of increased intraocular pressure.[7]

Presented at the Annual Meeting of the Virginia Society of Ophthalmology and Otolaryngology, Charlottesville, April 28-30, 1966.

Regardless of the treatment, the chances of decreased vision following total hyphema were estimated to be about 50 per cent.[3,8]

It has long been recognized that permanent functional sequellae may follow delayed resorption. Removal of a clot from a so-called eight-ball hemorrhage requires blind surgery and often results in injury to the iris or lens, or results in additional bleeding. Thus, the advantages of an anterior chamber clot dissolving irrigant have long been apparent.

Streptokinase-streptodornase, a precursor of fibrinolysin, was the first such substance used for this purpose. In 1951, this substance was used successfully on one patient by Jukofsky. In 1952, Friedman used these impure preparations on three patients with total hyphemas.[10] The substance was so irritating that all these patients lost useful vision, with one case requiring enucleation. A similar result was obtained when streptokinase was used as an anterior chamber irrigant by Braley.[11] Following these disastrous experiences, Smillie[12] and O'Rouke,[13] among others, continued to work with these fibrinolysin precursors, but all solutions which did not irritate the eye when injected intracamerally did not dissolve blood clots.

Little appeared in the literature with respect to anterior chamber irrigants until 1961, when Scheie, Ashley, and Weiner reported the successful use of fibrinolysin in two cases of total hyphema with glaucoma.[14] This group continued to investigate fibrinolysin and make a profoundly significant contribution to the treatment of this condition when, in 1963, they reported that intracameral injections of up to 25,000 units per cc, and as much as 30 minutes of

anterior chamber irrigation with concentrations of 6,250 units per cc, caused no permanent ocular damage.[15] In both early and long-standing blood clots, fibrinolysin was effective as a clot lyser. In their small series, 75 per cent of their patients obtained 20/30 vision or better.

In this same publication, a summary of 56 cases reported to the Scheie group by ophthalmologists throughout the country having used fibrinolysin for total hyphema showed results approaching those of the Scheie group.

These statistics, along with the enthusiasm of ophthalmologists who have successfully used fibrinolysin in what seemed to be hopeless situations, indicate that this substance has been widely accepted as the treatment of choice for total hyphema with glaucoma.

COMMERCIAL PRODUCTION OF FIBRINOLYSIN

Profibrinolysin —> acted on by activator —> Fibrinolysin
substance-streptokinase
(from large amounts
of human serum)

SCHEMATIC ACTION OF FIBRINOLYSIN

Fibrinolysin
irrigant ——> Proteolytic effect ——> Split Products
on fibrin clot which maybe irrigated
(1250 a/cc-5% D/W) from A/C

Fig. 1

A simplified schematic illustration showing the commercial production of this enzyme and its general mechanism of action is seen in Figure 1. A large amount of human serum is subjected to the activator substance, streptokinase, and the finished fibrinolysin is harvested. It is of interest to note that the activator substances, streptokinase and streptodornase, were first used as an anterior chamber irrigant, with the unfortunate results related above.

Figure 1 further illustrates the clinical use of fibrinolysin at a concentration of 1250 units per cc as an anterior chamber irrigant. Its proteolytic activity causes the dissolution of the anterior chamber clot, which can then be washed from the eye. This may take 10 minutes or it may take two to three hours.

The time factors cannot be overemphasized, and is dramatically illustrated by one of our more recent cases, which we wish to present: An eight year old white male was hit in his left eye by a ricocheted BB shot. This caused a one millimeter blood level in the anterior chamber. The visual acuity was 20/40 in this eye and 20/20 in the non-involved eye. The patient was given a sedative, both eyes were patched, and he was allowed to go home on strict bed rest. Two days later he was seen and his eye was clear, without any hemoglobin in the anterior chamber, and the fundus was examined and found to be normal. Both eyes were repatched and he continued bed rest at home.

Approximately 10 hours later, he had a severe secondary hemorrhage and was admitted to the hospital with light perception only in the left eye. He was sedated, patched, given adult doses of Diamox, and started on Varidase by mouth.

Over the next four days, the clot which filled the anterior chamber turned black and the eye became hard.

Figure 2 illustrates what we feel was the situation in the boy's eye. Note the clot extending into the posterior chamber.

At this time, the patient was taken to the operating room, where, under general endotracheal anesthesia, the following procedure was carried out: The anterior chamber was entered with a narrow keratome, inserted three millimeters within the limbus through the upper temporal quadrant. An anterior chamber irrigator tip on a two cc syringe was introduced and pointed so that the tip was always over the iris. This was done to avoid injury to the lens. The aperture was turned toward the inner surface of the cornea and fibrinolysin, in a dilution of 1250 units per cc, was gently injected and withdrawn with minimal pressure. The corneal incision was depressed slightly so that dissolved blood could escape, thus avoiding the build-up of too much pressure.

At first there was very little change, but after several minutes a small area in the

black clot was noted to turn red. The cells in this area broke away and were washed out, and, as the lavage continued, all the red blood cells were removed, leaving an interlacing network of fibrin over the iris.

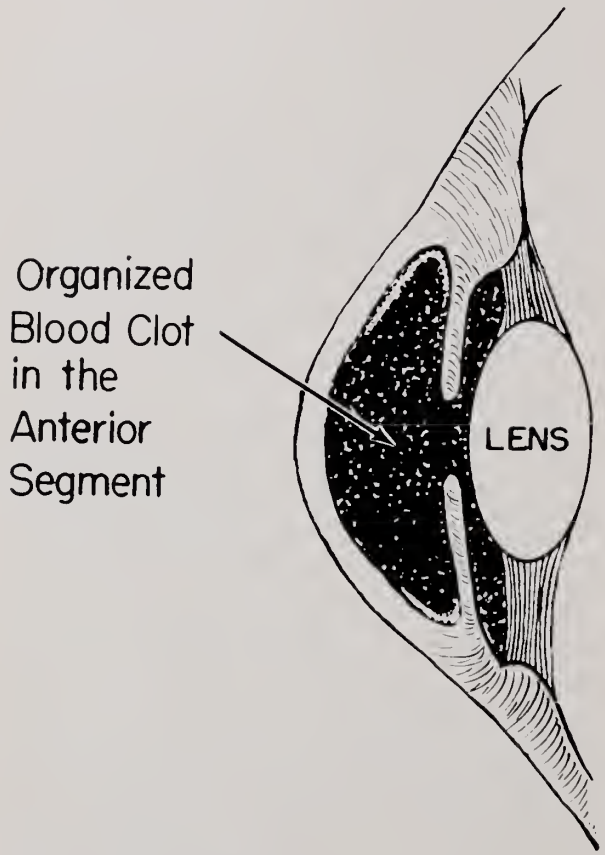


Fig. 2

The situation at this time is shown in Figure 3.

This fibrin is generally the last to be broken up and removed; however, in this case, the anterior portion of the anterior chamber was first cleared and a black clot remained behind the iris, which anteriorly was covered with a thick, fibrinous residue. No red reflex was visible. With continued irrigation, the black clot in the posterior chamber loosened and herniated through the pupil. It then broke up and was evacuated from the eye. The irrigation was carried out over a period of 150 minutes, or two and a half hours.

Postoperatively, the patient's cornea was hazy, but the entire anterior chamber was clear, the anterior iris surface was visible, and a good red reflex was seen.

The patient was discharged eight days later, on atropine and Maxitrol solution, and was followed at weekly intervals for two

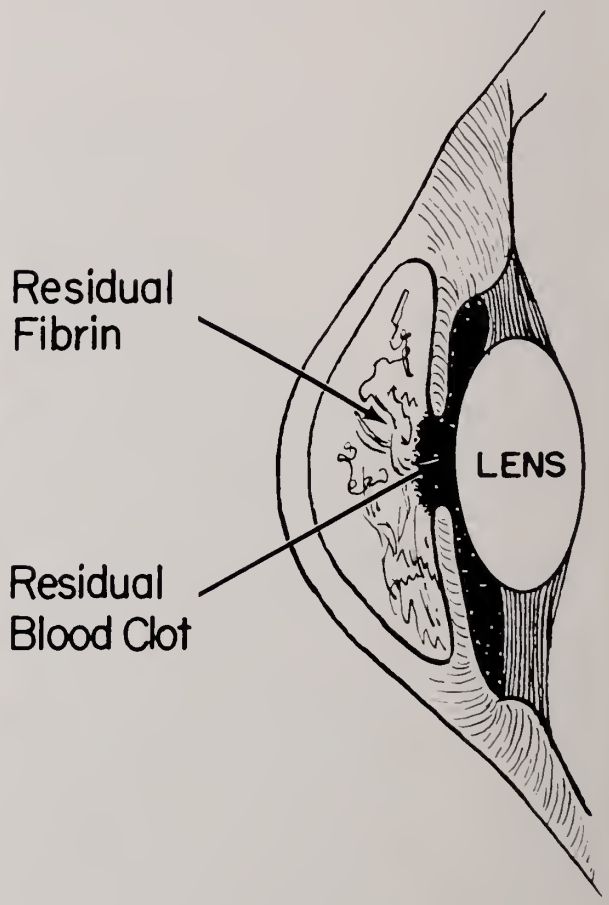


Fig. 3

months. The central corneal haze took six weeks to completely disappear. When last seen, the patient's eye was clear except for some remaining fibrin deposits on the anterior lens capsule. His visual acuity was 20/40 unaided, correctible to 20/30.

In summary, the rather exciting history of the development of fibrinolysin as an apparently non-toxic anterior chamber irrigant has been outlined. The method generally accepted for using this enzyme has been described. The very important fact that time and patience may be essential for the successful removal of a blood clot from the anterior pole of the eye has been emphasized in the presentation of a recent case.

The proper use of this substance represents a milestone in the care of patients presenting total hyphema with glaucoma, and should be emphasized as the treatment of choice.

References

1. Laughlin, R. C.: Anterior Chamber Hemorrhage in Nonperforating Injuries. Trans. Pacific Coast Oto-Ophth. Soc. 1948, p. 133.
2. Rychener, R. O.: The Management of Traumatic Hyphema. J.A.M.A. 126:763, 1944.
3. Loring, M. J.: Traumatic Hyphema. Am. J. Ophth. 46:873, 1958.
4. Wilson, J. M., McKee T. P., Campbell, E. M. and Miller, G. E.: Air Injection in the Treatment of Traumatic Hyphema. Am. J. Ophth. 37:409, March, 1954.
5. Fralick, F. B.: In discussion of paper by Rychener, R. O.: The Management of Traumatic Hyphema. J.A.M.A. 126:763, 1944.
6. Becker, B.: Diamox in Glaucoma. Am. J. Ophth. 37:13, January, 1954.
7. Darr, J. L.: The Management of Hyphema; Address before Postgraduate Course and First Walter Reed Alumni Meeting, Ophthalmology, April 18, 1966 (to be published).
8. Thygeson, P., and Beard, C.: Observations of Traumatic Hyphema. Am. J. Ophth., 35:977, 1952.
9. Jukofsky, S. L.: New Technique in the Treatment of Hyphema. Am. J. Ophth. 34:1692, 1951.
10. Friedman, M. N.: Streptokinase in Ophthalmology. Am. J. Ophth. 35:1184, 1952.
11. Braley, A. E.: Discussion of O'Rourke's paper. Am. J. Ophth. 39:136, February (Part II), 1955.
12. Smillie, J. W.: The Effect of Streptokinase on Simulated Hyphema. Am. J. Ophth. 37:911, 1954.
13. O'Rourke, J. F.: An Evaluation of Intraocular Streptokinase. Am. J. Ophth. 39:119, February (Part II), 1955.
14. Scheie, H. G.: The Treatment of Total Hyphema with Fibrinolysin. Arch. Ophth. 66:226, 1961.
15. Scheie, H. G. et al.: Treatment of Hyphema with Fibrinolysin. Arch. Ophth. 69:147, 1963.

3500 Kensington Avenue
Richmond, Virginia

Utilization of Retired Physicians

Wanted—part-time or full-time positions for retired physicians.

At its meeting in Las Vegas, November 1966, the House of Delegates adopted the following resolution:

> "Resolved, That the American Medical Association take measures to insure the attention of medical societies to the need for appropriate utilization of retired physicians and inactive nurses."

AMA's Physicians' Placement Service is presently considering the development of a special service within its overall existing activities to implement the intent of this resolution. A rough estimate indicates there are approximately 2,600 women physicians not practicing and 8,500 other physicians who have retired.

Many retired or non-practicing M.D.'s have found employment on a part-time basis with life insurance companies, in V.A. hospitals, in emergency rooms, as consultants at public hospitals and agencies, with voluntary health agency programs, in developing community health centers (of all kinds), as school health physicians, and even in some private practice situations.

The Placement Service wants to develop (1) a roster of available opportunities for full or part-time physician employment, and (2) a list of physicians interested in returning to limited practice or service. We encourage you to survey the opportunities and interested physicians in your state or county, either formally or informally, and to transmit to our Physicians' Placement Service information to promote this new project.

Noise in Industry

M. M. MACKAY, M.D.
Clifton Forge, Virginia

Hearing loss due to exposure to noise has become a problem of considerable importance. In industry, at least, much can be done and is being done to protect workers from this danger.

SINCE THE INDUSTRIAL REVOLUTION of the 19th century, progress in industry has been of enormous benefit to mankind, and this has been the case particularly in the United States. Unfortunately, it has also caused various hazards to the health of the workers involved. Certain of these health hazards are well recognized, albeit their recognition at times came a little too late before permanent damage was done.

Industrial competition being what it is, no one ever preconceives the health hazards of these advancements before the industrial mechanism is inaugurated.

Fortunately, steps have been taken to protect the individual worker from these health hazards.

There is one particular hazard which has been becoming increasingly common nowadays in our modern industrial complex. That is the damage to hearing due to "Noise In Industry". The increased awareness of this damage is evidenced by the increased attention being shown to this problem by all concerned.

A striking example of this interest was exhibited at the recent symposium on Noise In Industry, held in February 1965 in Cincinnati. The original symposium was scheduled to be held at the Kettering Institute of that city, but the attendance demand was so overwhelming that the meeting had to be held in one of the larger Cincinnati hotels. Over 150 industrial firms and representatives of unions, management, health agencies, insurance, and law, attended.

The solution of the problem is obviously not solely a medical one. It requires a combination of the talents of otologists and plant doctors, engineers, safety directors, and industrial hygienists, and both union and management.

The Scope of the Problem

"Noise exposure may produce permanent hearing loss."

These particular words have not been chosen haphazardly. The grammar may not be strictly the best of English, but the words have been orientated in the sentence in that particular order for a particular reason.

The first word is *noise*. The first reaction to this word is that it is easy to define, and easy to measure. Yet, if you dig into the problem, all kinds of difficulties arise. First, what type of noise are we dealing with? Is it a steady noise? Does it have what we call wide-band characteristics; that is, is the energy reasonably well distributed from low to high pitches or is the energy concentrated? If it is concentrated, then this is a narrow band noise. So we have referred to wide band and narrow band noise, and occasionally pure tones on a white noise background. The whine of a jet airplane is such a case. Is the noise a steady noise or is there great fluctuation of the indicator needle? Is it an impact noise?

Presented at the Annual Meeting of the Virginia Society of Ophthalmology and Otolaryngology, Charlottesville, April 28-30, 1966.

Perhaps the problem is now becoming more apparent.

How do we measure the noise? Noise, like hearing loss, is fairly readily quantified. With sophisticated equipment we can readily obtain data which enables us to plot sound pressure level distribution in time and frequencies divided into "octave bands". But like our hearing loss measurement, it is extremely difficult to gauge the quality or distortion. This problem is being worked at.

There are three various networks used at the present time to measure noise, known as the A, B, & C networks, and as can be readily appreciated, these measurements are caught right in the middle of the present controversy between the American Standards Association and the International Standards Organization.

These problems have been measured fairly successfully and accurately as regards steady noise. What about impact noise measurement? If we use the same instruments for impact noise, we would find that our noise has come and gone before the needle gets off the peg at the bottom of the scale.

Remember that instruments measure sound pressure levels, but what you hear as a human is a function of loudness.

The first word *noise* is obviously not as simple as was first conceived.

The second word is *exposure*. If we limit the questions to steady noise, day to day exposure, and years of exposure in this noise, we think we can tell you what we have to do with the problem. With regards to the same question, but about impact noise, we cannot tell you.

Exposure may be continuous or intermittent. We are well aware that the employees do not spend a full eight hours of every day in a particular noise. Neither does the noise remain unchanged. Continuous exposure is what we call a typical workday in which most of the time is exposed in the noise. Again herein lies the joker. What is most of the time? The feeling at present is that we are talking about five hours out of a workday being spent in the noise.

Intermittent exposure is a great deal more difficult. How do you measure this type of exposure? A good illustration of this is the case of sailors on the flight deck of an aircraft carrier. For several minutes during their normal operation, they are exposed to the intense whine of the jet and the noise of the catapult, which makes almost as much noise as the jet. Then they have a rest until the next plane is ready to take off. How much damage does this type of intermittent exposure to noise subject these boys?

Let us move now to the next two words *may produce*. The word "may" emphasizes that it is not necessarily always the case that the employees will lose their hearing. Some may and some may not. This brings up the question of susceptibility of human ears. There is no doubt that some individuals are extremely resistant to noise exposure. They can spend a lifetime in a noisy atmosphere and nothing appears to happen to their hearing. These are the so-called "tin ears". But on the other hand there are individuals who are more susceptible to hearing damage. These are the individuals we would like to single out as quickly as possible. These are the "soft ear" types. There is no test available at present which can successfully accomplish this. It can be done over a number of years, however, by regular audio-metric testing on all employees. Progression of the hearing loss can be gauged by comparing his past records of hearing. Appropriate measures can be taken before serious damage ensues, but not as quickly as we would like.

The age of a given group may produce variability. Certainly between the 20-year decade and the 50-year decade there is greater variability.

Returning again to the words "may produce" we must also talk about the difference in the sexes, and there is increasing evidence that, as in other fields, females have a greater resistance to acoustic trauma.

The next word in my sentence is *permanent*.

If you have listened to the recording in

the exhibit for any length of time, you can appreciate your own immediate hearing handicap. This is "temporary threshold shift or T.T.S." This is very striking, but also not "permanent".

A permanent hearing loss or "permanent threshold shift" (P.T.S.) is very, very permanent.

The present concept is that there is no correlation between P.T.S. and T.T.S.

It is important to know exactly in which anatomical entity of the ear the damage has been done. Specifically the hair cells of the inner ear are damaged. One loses the ability to transduce the mechanical energy of the middle ear to the electrical pulse to the brain. We would wish that the damage were in the middle ear where surgeons have ventured and repaired, with great success. But as yet we have not explored surgically the inner ear, and I daresay that if we ventured in, it would be very difficult to repair damaged hair cells.

Let there be no dubiety regarding the permanency of a permanent hearing loss due to excessive noise. The loss is permanent, the decibels of hearing are lost and gone forever, irrevocably and irretrievably.

Noise exposure may produce permanent *hearing loss*. The last two words in my sentence require no further explanation to this group. The only group who could appreciate more the devastating effect of this, are deaf people.

Noise Measurement Instrumentation

The various instruments that we have at present for measuring noise levels are on show in the exhibit. Essentially they consist of a microphone which transforms the sound-pressure levels of the noise to electrical impulses, which are measured by an indicator needle on a meter. A representative graph of the noise level shown can be made from the recordings.

All of these instruments can be readily operated by intelligent personnel, and regular records kept. Or it may be more feasible in certain instances to engage the services of an engineering firm which specializes in this type of noise measurement and assessment. Always keep in mind that these instruments are incapable of measuring impact noise.

Noise Damage

The effect of noise damage is mostly to the hearing mechanism.

However, other effects have been attributed to noise.

The masking effect which interferes with normal speech communication can be an added danger in industry.

The effect on the morale of the workers is questioned. This aspect is not readily assessed. The uplift in morale when pleasant background music is being played is accepted.

Hearing Testing

It may seem impertinent to mention hearing testing to a group of this experience. However, testing on a large scale in an industrial complex presents a few problems which are not apparent to practicing otologists.

The environment in industry is not always quiet. The preparation of the patient, or rather of the worker, for audiometric testing, should take into consideration the fact that he might have a considerable temporary threshold shift. It is desirable that the testing be done at least 48 hours after exposure to the noise, preferably on his "swing days".

To achieve an acceptable minimal standard technique, the procedure must be simple and as free of human error as possible.

The recommended equipment consists of an audiometric booth and an automatic audiometer.

Air conduction curves are measured in this way, and if further sophisticated measurements of hearing are required, the individual is best referred to an otologist for this.

The outlay for this type of equipment

and the expenses of the personnel involved are very small when compared with the amount of the potential hearing loss claims which might occur.

Hearing Conservation Program

A good hearing conservation program requires the services of a trained otologist as a consultant and the direct supervision of the plant doctor, aided and abetted by the safety director and/or the industrial hygienist.

Accurate records must be kept.

Regular noise surveys must be made, supplemented by extra surveys should new equipment be installed.

Annual testing of all employees is essential. In cases where this has been initiated, there has been surprisingly little resistance encountered from the employees. It is always desirable that these procedures not be made mandatory.

Pre-employment physical examinations should include an audiometric ear conduction study of the individual.

Protective devices should be available to all personnel. These include muffs, plugs, and ear defenders.

Protection can also be obtained by isolating the worker in a special booth.

The noise source can sometimes be cut down by engineering adjustments.

Legal Aspects of the Problem

In the 1964 March-April issue of Safety Standards prepared by the U. S. Department of Labor was an article on Noise and Guidelines for Controlling Noise prepared by the Department.

Presumably this article reflects how the Federal Government is looking at this problem.

As far as the State of Virginia was concerned, there were no basic guidelines set until last year. Before this, a hearing loss due to noise was reckoned in the same category as hearing loss due to ear injury, for instance, a spark flying into the ear from an oxy-acetylene torch. In 1965, definite guidelines were stated; these are a duplication of the Wisconsin laws. Compensable hearing loss is measured in the three speech frequencies, that is, 500, 1000, and 2000 decibles, and the average of these three losses is taken. There is one very major difference, There is no allowance made for presbycusis. This makes it an unfair law. Laws should be evolved, but a bad law is worse than no law at all.

GUIDELINES FOR CONTROL OF NOISE

	Hours Per Week						
Cps Band	0.1	0.3	1	3	10	25	40
20– 75	135	135	125	115	110	110	105
75–150	135	130	120	110	105	105	100
150–300	135	125	115	105	95	95	95
300–600	130	125	110	100	95	95	90
600–1200	125	120	110	100	90	90	85
1200–2400	120	115	105	100	90	90	85
2400–4800	120	115	105	100	90	90	85
4800–9600	120	115	105	100	90	90	85

Example: if the octave band is 600 to 1200 cps and the sound level is 100 decibels then weekly exposure should not exceed three hours.

This problem has not been pursued in Virginia as in some of the other states, notably California and Wisconsin. Their hearing loss claims have become a hotly contested subject. In Wisconsin alone in 1964, there were over 14 million dollars compensation claims awaiting jurisdiction.

Medical Aspects

As otologists, we should be aware of this problem, and not disregard it as we have done in the past. We should be aware that the problem is present. We should be aware that the loss is permanent. We should be aware that it is preventable, and we should properly try to correct it.

These lost decibels cannot be atoned for by a sum of money, and the hearing handi-

cap of a shipyard worker or a railroad engineer or a factory worker should never be accepted by us as inevitable.

No man should have to come home to a family he loves dearly, and because he spent his life working for them, be unable to communicate with them. Using our present knowledge, this insidious affliction can be recognized and prevented.

Department of Otolaryngology
C. & O. Hospital
Clifton Forge, Virginia

Classifying Youngsters for Physical Education

Physical education is so important that great care should be used in excusing youngsters from a school's program in this area. Schools should establish comprehensive programs that provide physical education for students with varying degrees of physical fitness. It's then the task of physicians, educators, and parents to cooperate in a program that classifies students according to physical ability.

These are some of the recommendations in a statement by the American Medical Association's Committee on Exercise and Physical Fitness that appeared recently in the Journal of the AMA.

"A good physical education program offers opportunity for the student to participate in a wide variety of activities with differing degrees of intensity. This enables the physician to guide a student with a health handicap into a program of physical education adapted to his individual needs." A broadly based program also enables the physician to encourage healthy students to participate fully in a program of interest and value to them.

"Each youth—healthy or handicapped—can be helped to discover activities in which he can take part with benefit to his health."

Generally, students are placed in one of four categories for physical activity. These include:

1. Unrestricted activity—full participation in physical education and athletic activities.
2. Moderate restriction—participation in designated physical education and athletic activities.
3. Severe restriction — participation in only a limited number of events at a low level of activity.
4. Reconstructive or rehabilitative—participation in a prescribed program of corrective exercises or adapted sports.

Classifying students for physical education has frequently been discussed at the National Conference on Physicians and Schools, held bienially under auspices of the AMA. Physicians, educators, and public health personnel attending these meetings have generally concluded:

—Better communication is needed among all parties in such a classification program.

—The physician should provide all pertinent information on why an excuse from exercise has been issued. This can be done without divulging privileged information by providing an interpretation of the physical condition rather than medical findings.

—Inadequate physical education programs must be strengthened. Many communities need to increase the variety of their activities.

—Every student should have the kind of exposure to physical education which promotes understanding of the significance of physical activity in maintaining health and in motivating the individual to regular lifelong physical activity.

The Changing Environment of Medical Practice

A Brief Presentation and Panel Discussion

Why This Symposium?

THE social, economic, technological and political changes now sweeping the American health care world will bring about a revolution in the whole concept, organization and functioning of health care in the next decade. Everyone in the field will be affected—medical practitioners, groups, hospitals, clinics, health departments, government health agencies, private health agencies, medical societies, professional organizations, insurers and patients.

These changes will bring both new opportunities and responsibilities to doctors. Doctors must have a major role in helping to shape changes in health care because they must make judgments regarding patient welfare, effectiveness and appropriateness of health programs to meet health needs.

This Symposium will focus on three crucial aspects of the health care revolution.

Dr. George James, Dean of the Medical School at Mt. Sinai Hospital in New York, former Commissioner of Health of New York City, and one of the country's foremost health leaders, has said that there are critical unsolved problems in medical care which go beyond what medicine is now able to deal with. Major advances in biological medicine have created new capabilities and new demands for care. But medicine has yet to cope with economic and social forces which are in themselves causes of disease, death, inadequate care. This suggests the need for new approaches to medical practice and medical education.

Mr. Robert A. Neiman, of Robert H. Schaffer & Associates, consultants working with organizations undergoing major transformation, has said that a new medical care system cannot be created simply by tearing down what we now have and starting afresh. Existing organizations must find ways to change. Most medical organizations face enormous resistance—making the implementation of even modest changes a major challenge. Successful adaptation will require, therefore, mastery of methods for accelerating the processes of change.

Peter B. Terenzio, Executive Vice President of Roosevelt Hospital, New York, President-Elect of the American College of Hospital Administrators and former president of the Greater New York Hospital Association, has pointed out that hospitals will be the focal point of medical care in the future, but they cannot serve that function if they are only acute care institutions. They have to go into new businesses and become the kind of organizations which give physicians the very best support and environment to practice medicine to serve many more people, using many new methods, techniques and equipment, capable of caring for the whole patient and all his health problems.

The Program for This Symposium

Dr. James: What will be good medical care in the future? What are some of the critical unsolved problems that require change in medical practice and medical education?

Mr. Neiman: How can transitions in medical care be made? How can medical organizations gear up for accelerating and fundamental change?

Mr. Terenzio: What will the hospital of the future be like? What role can physicians play in helping to reshape medical institutions?

Discussion

Panel discussion led by Dr. Thomas Mur-

Symposium presented at Richmond Academy of Medicine, February 8, 1966.

rell. Questions posed by Dr. Murrell and the audience to initiate a provocative discussion.

Changing Environment of Medical Practice

Thomas Murrell, Jr., M.D.:

If we take a hard look at the practice of medicine in the past twenty years, we witness an astonishing phenomenom. At a time of unbelievable prosperity with enormous flow of money to pay for goods and services, medicine finds itself face to face with many more problems than it ever had before. A good deal of the planning has been done by a vast army of medical planners in and out of the Federal Government who have often transmitted their ideas into effective political action. We have witnessed the appearance of new power structures within or allied to medicine who have frequently taken positions quite contrary to ideas expressed by the American Medical Association. Many people have believed that the practicing physician cannot carry out his main job and at the same time make good decisions related to health problems in the United States.

In the interest of patient care the real answer to that kind of thinking is an informed profession and an active one which will meet new ideas with better ones. The term "planner" does not mean changer but does imply that problems must be solved, the good elements from the old as well as from the new. With these ideas as background we are privileged to participate in the symposium to follow.

George James, M.D.:

I have had the opportunity in the last three months to take part in the planning of a new medical school. We are not going to admit our first student until 1969; will probably not graduate our first complete class until nearly 1975; and with an added five or six years of residency, we will begin to turn out physicians to practice specialty medicine about 15 years from now.

When one considers the rapid pace of change in the last five years, not only on the technical side of medicine, but on the social side, we have to ask ourselves many searching questions as we plan the curriculum for these future physicians. The pace of these developments has been rapid; the changes, vast. In the meantime, hospitals must be built; other medical students must be trained; individuals must make career decisions. This leads us to some sort of a guessing game. We have to study the trends of the past; we have to extend them into the future; and we have to guess what this future will be. Is the future controllable? And if we do wish to control it, what shall be our means and what shall be our ends?

First of all, one of the least controversial statements about medical care in the future is that there must be universal access to high quality, comprehensive health and medical care. This is far more than Medicare. In my opinion, Medicare is really not primarily a medical care program, it is largely an income maintenance program. It is a means of removing one part of the many barriers to medical care.

In New York City we have studied the infants and pre-school children on public assistance. One fourth of them are not under routine health services, even though every clinic in town is open to them. We studied our selective service registers and found that half the men rejected for physical reasons are not now under medical care for the conditions responsible for their rejection. There are many barriers to universal access which go far beyond financial problems.

Medicare, so far, promises little as a means of improving quality of medical care; yet, as written, the legislation could do much. To understand the problem of medical care in the future we have to make some flat statements. Of the 20 leading causes of death in our country today, all but a very few are those in which the full impact of medical science has yet to demonstrate that

it can effect a real change. Of the major causes of disability, also, the full extent of medical science has yet to demonstrate that it can make an impact upon the trend. Therefore, we must agree that the major diseases with which we are now struggling, coronary heart disease, cancer, diabetes, stroke and all the major causes of disability, are conditions which we must yet learn how to deal with effectively.

In order to study this problem, we might consider the natural history of disease, the whole complex, from the beginning of its development on through to its chronic stages. Disease in its natural history may be divided into four parts.

The *first* part is the population at risk, those factors which make an individual more or less susceptible to a disease. These include his habits, his genetic background, his immunization status, his diet, his smoking habits, the place where he lives, the way he exists, etc.

The *second* stage relates to the preclinical phases of disease, and our weapon, of course, in early detection. In our contemporary culture, our approach to the first stage of the major diseases by modifying the factors at risk, is practically nil. We are doing essentially nothing. In the second stage of disease we are also doing very little. In New York City, where we have a very effective program (we call them effective by comparison with other areas) for disease detection, we are today, finding less than 1/50th of the unknown cases of carcinoma of the cervix each year, less than 1/40th of the unknown cases of diabetes, and less than 1/200th of the unknown cases of glaucoma. We are finding less than 1/2 of the unknown cases of tuberculosis. So the priority for stages one and two of the natural history of disease has been extremely low. We have never yet given medical care a real opportunity to be effective in these two stages.

The *third* stage of medical care is the time when an individual has a symptom and comes to care. Even here, we are limited by the fact that the patient has to have a symptom, has to experience it, and has to agree to act upon it. Recent sociological studies have indicated an enormous variation among patients as regard to their ability to react to a given symptom. For example, one study of known cancer patients showed that the North European, such as the Irish and the North Germans, are twice as willing to ignore a symptom and not go for medical care as are the Southern European, such as the Southern Italians, Czechs, and Yugoslavs. Variations of this nature have an enormous impact on an individual's demand for care.

In the third stage of medicine (clinical medicine) there is enormous fragmentation of care. An individual must go to many different specialists as a rule, particularly in our sophisticated urban areas. We are practicing a large amount of "chief-complaint" medicine. We are treating the patient's chief complaint and to some degree, we are not studying the total patient and treating him for all the stages of all the diseases he may suffer.

In the *fourth* stage of disease, which is the chronic stage and which is the rapidly growing part of disease today, medical care can no longer cure in a biological sense. What *can* medical care do? Its aim is to limit disability—ideally to rehabilitate—but at the very least, to try to make some adjustment between the patient and his environment so he can function as a dignified human being for as long as possible. And yet most of our medical care structure today is not geared for the chronically ill patient.

I had an elderly male patient with the following conditions: Carcinoma of the larynx with esophageal speech, laryngectomy, hypertrophied prostate, chronic diverticulosis, diaphragmatic hernia, inguinal hernia, pyelonephritis, an anterior wall infarction, cataract of his left eye, peripheral vascular disease, diabetes mellitus and chronic bronchitis. When asked what his chief complaint

was, he said, "My wife". This man was medically indigent. He was told to go to ten separate clinics. He was too sick to go to ten separate clinics. If he had, none of those ten separate clinics could have cured any of his conditions—with the possible exception of the cataract, when it became ripe for the surgery. He would obviously end up as an admitted patient. No self-respecting medical resident would allow him to stay on the ward very long. He would then end up in a nursing home. What he needed was the kind of medicine we are not equipped to offer, a kind of geriatric disability control service. When this was provided to him in New York City, he was able to remain at home with his wife, continuing to complain about each other, but at least miserably happy for the last three years without institutional care.

There are only five ways we can make progress in health and medicine—*first,* by providing services; *second,* by motivating people to use them; *third,* by taking the services to the people. The *fourth* method is through research; the *fifth* by helping the population to decide that a correctable situation will no longer be tolerated.

Ten years ago if all the poliomyelitis vaccine in the world were placed on top of Mount Everest there would have been only two cooperative patients, Tensing Norkay and Sid Edmund Hillary. The rest of the world would be uncooperative. We could have stepped up our lectures on the importance of polio immunization, we could have exhorted people to climb the mountain, we could have taught mountain climbing. Maybe one out of a group this size would make the effort, but the rest would be uncooperative. But if we could bring the vaccine down from Mt. Everest, if we could bring services to people as well as try to motivate people to go to services, then progress could be made. This is done all the time. What is fluoridation, if not a program by which we bring services to people? We are bringing dental prevention services down from Mt. Everest.

When I began in public health work 25 years ago, I did not have a single cooperative patient with early syphilis, because none of them stayed with me for a year and a half of arsenic and bismuth injections. Today, nearly all my patients are cooperative. They need only one shot of pencillin. In this case, repackaging has been a means of broadening our services. We will not persuade people, poor people, or even rich people, to give adequate priority to first, second and fourth stage medicine, unless we repackage. We have been able to institute carcinoma of the cervix detection for all general hospital admissions, thereby obtaining thousands of smears and diagnosing hundreds of cases of the disease. If we had been limited merely to education to get people to come specifically for this service, we would have received the results which I mentioned before, which is one out of 40 of the unknown cases which exist.

The other two pathways to progress are (1) research, either to improve the motivation or to develop new tools to repackage our services, or (2) something that Geoffrey Vickers has called "redefining the unacceptable". Fluoridation, which is a good example of this latter principle was attained because dental caries became unacceptable. There is a movement in the country today that seeks to make poverty unacceptable or unmet medical need.

As we develop our own medical school, we will have to decide whether we limit our teaching to surgery, physical diagnosis, pharmacology, or whether we also teach the control of disease. As we go forward in medicine, I predict that we are going to have this dichotomy brought in front of us more and more. To give you one example, the chest surgeon of today, if he is fortunate, can save one out of 20 of his patients who have carcinoma of the lung. One out of 20 also happens to be about the limit of statistical significance. On the other hand, a seventh-grade school teacher who convinces her youngsters not to start the cigarette smoking habit could be 10 times

more effective in the prevention of lung cancer. In terms of disease control, which is making the greatest contribution—the chest surgeon or the seventh-grade school teacher? If physicians wish to maintain their leadership role in disease control, they must see that effective steps are taken to control the disease, and not merely limit their interest to the skills of their specialty.

The tuberculosis germ is no more virulent in the central Harlem district of New York, than in our Pelham Bay region. Our drugs are no less potent. We have 10 times more TB control facilities in this area, and yet the TB incidence and death rate are 10 times higher in central Harlem. This problem cannot be solved by better care in the clinical-medical sense, it may be solved by greater effort in the first-stage-of-disease sense. Poverty is the major cause of tuberculosis in New York City, but the disease does not remain with the poor. In 1963 we had more than a 10% increase in new cases, and the population group which experienced the highest incidence during the outbreak were young white people who had a 37% increase in minimal disease. Poverty can prove to be a hazard to everyone.

If the physician is to use his leadership he must work with auxiliaries; he must be captain of a team. The treatment of chronic disease is not solely a matter of symptomatic medicine; it is not largely a matter of curative medicine. The physician must work with an enormous variety of other para-medical workers. The future medical programs must become more problem-centered; more concerned about the disease problem wherever it may take us, rather than agency-centered or profession-centered or discipline-centered. We need excellent scientists and technical experts, and it is my intention as a new Dean to train them. But we also need individuals capable of seeing the whole picture; willing to struggle with the gaps of unmet need; able to coordinate the effort and take the responsibility for the total problem. The physician must take the leadership, because if he does not then he will work for those who will. The regionalization concept of the heart, stroke and cancer legislation is an indication of how the government, and the population, and our own colleagues like Dr. DeBakey and others have asked medical schools, teaching hospitals, and physicians to take leadership to spread their talents over a wider group of the population. It is not practicing good quality medical care for a medical school merely to take care of the people who enter its doors. It must feel a responsibility for the large group of people who suffer huge unmet needs in stages 1, 2, 3, and 4, of medical care, but for one reason or another, find this medical care on top of Mt. Everest for them. We must, therefore, break down some of our ivory-towered barriers; we must look to the new day when unmet needs will become more and more unacceptable to our population. Unsolved problems such as barriers to universal access to medical care, fragmentation of medical care, and inadequate quality of medical care will become greater and greater challenges to us all.

As I look ahead to the training of physicians for the future, I realize the need to prepare our young men to accept this challenge.

(To be continued in the June issue of Virginia Medical Monthly)

Clinicopathological Conference . . . .

Complications of Heart Valve Prosthesis

Prepared and Edited by
PAGE HUDSON, M.D.
JOHN H. MOON, M.D.
Medical College of Virginia

DISCUSSANTS:

Richard R. Lower, M.D., Associate Professor and Chairman, Department of Surgery, Medical College of Virginia

M. Pinson Neal, Jr., M.D., Associate Professor and Chairman, Radiodiagnostic Studies, Department of Radiology, Medical College of Virginia

Rosser A. Rudolph, M.D., Instructor, Department of Pathology, Medical College of Virginia

Clinical History

This 55 year old white male was readmitted to the Medical College of Virginia Hospitals on 5/20/65 because of shortness of breath. He had been hospitalized a month before with similar complaints which had been corrected by intensive therapy for congestive heart failure. At this time he was advised that he needed further cardiac surgery but he refused this and was discharged to be followed in the out-patient clinic. His medications were digitalis, diuretics and Coumadin. On returning to his home he had noticed a progressive increase in his symptoms of exertional and paroxysmal nocturnal dyspnea.

Physical examination revealed BP 140/50, R. 20, P. 88 and irregular, T. 97.4°. He was a poorly developed, chronically ill, white man. The neck veins were not distended when he lay at a 75° angle. Chest showed marked kyphosis. There was hyperresonance to percussion over the chest and on auscultation there were a few crepitant rales in the right base. The heart showed the apical impulse in the sixth left intercostal space, 14 cm. to the left of the midsternal line. There was a grossly irregular rhythm. A Grade III/VI, harsh systolic murmur was present in the aortic area and was transmitted widely over the precordium. The clicking of his Starr-Edwards valve prosthesis somewhat obscured the character of the murmur. There was also a Grade II/VI aortic diastolic murmur which was also widely transmitted. Abdominal examination revealed that the liver edge was palpable 2 cm. below the right costal margin and was nontender. No other organs or masses were noted. Extremities showed a 2+ pitting, pretibial edema and bilateral pedal edema. The remainder of the physical examination was within normal limits.

Review of systems was essentially negative. Family history was noncontributory.

Past medical history was complex. The patient was told at age 15 that he had a heart murmur. At the age of 28 he noted the gradual onset of dyspnea, left chest pain, ankle edema and fatigue. He was started on digitalis which he took for one month with improvement in his symptoms but then discontinued it. In 1956, he developed an acute episode of cardiac irregularity and was admitted to the Medical College of Virginia Emergency Room in shock with a pulse rate of 188-190 beats per minute. The rhythm was totally irregular. An electrocardiogram showed auricular fibrillation with runs of ventricular tachycardia. He had findings indicating aortic stenosis. The cardiac irregularity was treated with quinidine with a reversion of his electrocardiographic findings towards normal, but with a persistent left ventricular strain pattern. He was admitted to MCV in March of 1957 for cardiac catheterization. The pressure in the left ventricle was reported as 176/0 while the simultaneous pressure in the brachial artery was 116/52. He was readmitted in May of 1957 for cardiac surgery. A sternum

splitting incision was utilized and the aorta approached from above utilizing a rubberized nylon diverticulum. The operative note stated that only the tip of the finger could be inserted into the orifice of the aortic valve. After withdrawal of the finger the large Mueller aortic valvulotome was inserted and, using external control, was passed through the aortic orifice where dilatation was carried out. Subsequent examination with the finger revealed that there was a tear completely across the valve in line with the partially unfused commissure, thus providing a bivalve. It was not thought that any significant degree of aortic regurgitation had been produced. He was followed in the out-patient department subsequent to surgery, and appeared to be doing well. However, in 1958, a diastolic murmur was first heard over the aortic area.

The patient continued to do well until the latter part of 1963, when he began to develop increasing dyspnea, left chest pain, ankle swelling and fatigue. He was readmitted to the hospital in February of 1964 for further evaluation. He was noted to have cardiomegaly with an apical impulse in the 5th interspace slightly lateral to the midclavicular line. There was a Grade III harsh systolic murmur at the aortic area associated with a thrill and a Grade III decrescendo diastolic soft murmur along the right sternal border. The murmurs were heard widely over the precordium. An electrocardiogram showed occasional auricular premature contractions and left ventricular hypertrophy. Pulmonary function studies showed a vital capacity of 74% of predicted and an inspiratory capacity of 67% predicted. Timed vital capacity was slightly reduced to 65% of the predicted normal. Oxygen tension was normal. A left ventricular puncture showed the pressure in the left ventricle to be 215/40 and in the brachial artery 150/65. An aortagram showed findings consistent with a combination of aortic insufficiency and stenosis. He was advised that he needed further surgery to the aortic valve and was discharged to be readmitted at his convenience for surgery. In April of 1964 he underwent excision of the aortic valve and replacement with a No. 11 Starr-Edwards prosthesis under extracorporeal circulation. At the time of surgery the valve was found to be so severely stenotic and calcific as to necessitate full excision of the valve. The excision was carried out down to the annulus and, in the noncoronary sinus, excision of the calcium lead into severe calcification and ulceration which extended into the outflow tract of the left ventricle. The valve was sutured into place and the sutures were carried through the annulus of the left and right coronary leaflets. Sutures were also placed through the wall of the aorta just above the area of the annulus in the noncoronary sinus. The patient had an unremarkable postoperative course and was discharged on the 12th postoperative day on continuous anticoagulant therapy.

He was readmitted in June of 1964 with a history of having felt weak and lethargic for the week preceding admission. Associated with this were chilly sensations and intermittent fever. His blood cultures were positive for Staphylococcus aureus, coagulase negative, and he was thought to have bacterial endocarditis. He was treated with Staphcillin for about six weeks which resulted in defervescence. Blood cultures following therapy remained negative and he was discharged to be followed as an outpatient in August of 1964.

He did well following this episode until December when he began to have episodes of choking when lying flat which were relieved by sitting up. He also had increasing dyspnea on exertion and swelling of his legs in March of 1965, for which he required hospitalization. He was thought to have toxicity from his digitalis preparation and this was accordingly stopped. It was thought that there was a change in the character of his murmurs with progressive evidence of cardiac decompensation and the question of

improper functioning of the Starr-Edwards valve was raised. He was advised to have an aortagram to evaluate this but refused to do so.

Laboratory data on his final admission included: Hemoglobin 13.2 gm.%, white count 9,650 with an essentially normal differential. BUN 15 mg.%. Serum sodium 125 mEq/l, chlorides 80 mEq/l, potassium 6 mEq/l and CO_2 combining power 26. Prothrombin concentration was 11%. The urine was deep yellow, slightly hazy and acid with a specific gravity of 1.015. Protein, sugar and acetone were not present. Microscopic examination was essentially within normal limits. A chest film showed marked kyphoscoliosis. There was cardiomegaly with aortic enlargement and enlargement of the pulmonary vessels. A prosthetic aortic valve was in place. Marie-Strumpell arthritis was noted. There was moderate congestion and a small amount of fluid at the costophrenic angles. An electrocardiogram on 5/20/65 showed atrial fibrillation with left ventricular hypertrophy. There were frequent multifocal ventricular ectopic contractions with long runs of bigeminy. Nonspecific ST and T changes were present.

The patient was continued on Coumadin and diuretics and was placed on lysine monohydrate in preparation for the use of mercurial diuretics. He continued to have intermittent episodes of acute dyspnea and cyanosis during his hospitalization with only a slight response to oxygen. On 5/22/65 he had two episodes of sudden onset of pallor, loss of pulse and prostration with spontaneous recovery of his vital signs from these episodes in a short period of time. There was no change in the character of his murmurs but evidence of pulmonary congestion, particularly at the left base, remained. On May 23rd, the intern was called to see the patient because of absence of vital signs and the patient was pronounced dead at that time.

Clinical Discussion

Dr. Richard R. Lower: We have today a case involving a 55 year old white male with aortic valve disease who underwent two operations and subsequently died. The problems for us now to decide are, first, the nature of his aortic valve disease and, second, the cause of his death.

He was found to have a murmur at age 15 but there was no clear history of rheumatic fever. He was relatively well until 1956 when symptoms of heart failure and chest pain appeared. An 18 year course for a patient with aortic valve disease and symptoms of heart failure is somewhat unusual. The onset of heart failure due to aortic stenosis is usually followed by a more rapid downhill course. In 1957, he was admitted because of arrhythmia and heart failure. Cardiac catheterization led to a diagnosis of aortic stenosis. I note that at this time his pulse pressure was wide. I would, therefore, assume that he had some aortic insufficiency in 1957. Apparently right heart catheterization was not carried out at any time during this man's course. He underwent instrumentation of the aortic valve in May, 1957. A diastolic murmur was heard for the first time in 1958, but I suspect that even at the time the surgery for aortic stenosis was done, there was probably some degree of aortic insufficiency. The patient had a striking remission of symptoms after surgery. This procedure, performed in days prior to routine use of open heart surgery, was a rather crude way to open a heavily calcified valve and often resulted in insufficiency at the time that the dilator was forced into the stenotic, heavily calcified valve. Embolization of the calcium often occurred. This patient, however, did well for about a five year period after instrumentation. In 1963, he again presented with symptoms of right and left heart failure and was readmitted for further study. The patient clearly had recurrent aortic stenosis proven again by left heart catheterization. He also had aortic insufficiency with a Grade III decrescendo diastolic murmur and a wide pulse pressure. In April, 1964, he underwent excision of

the aortic valve and replacement with the Starr-Edwards prosthesis.

The etiology of his aortic valve disease is really the first part of our problem today. I would have thought that this part of our answer would have been forthcoming from the surgery. It is described as a heavily, calcified, severely stenotic valve. Was it a bicuspid valve or was it possible to tell?

Dr. Lewis H. Bosher, Jr.: It was so calcified and deformed that it would be impossible to be absolutely positive. It was my impression that it was probably a bicuspid valve.

Dr. Lower: It is often difficult to tell at operation whether one is dealing with a congenital bicuspid valve with a rudimentary raphe or whether it was originally a tricuspid valve that had become severely deformed and fused by the calcific process. Most of us believe that the majority of the heavily calcified valves which come to operation at a fairly early age and are quite deformed were probably congenitally deformed. This, with early calcification, would account for the murmur heard at age 15.

The valve was excised and we are further given the information that the calcification extended well into the substance of the myocardium. This is not unusual and in fact it often extends into the anterior leaflet of the mitral valve. Heart block may be produced either by the process of calcification or by the process of decalcification at the time of excision of the valve. Subsequent to the insertion of the prosthesis the patient developed symptoms and signs of bacterial endocarditis in June, 1964, some two months after replacement of the valve.

Dr. John H. Moon: Would you comment at this time, Dr. Lower, on the entities that may simulate bacterial endocarditis following cardiac surgery?

Dr. Lower: The problem of deciding the etiology of postoperative fever after open heart surgery is an especially challenging one. Basically there are four conditions which commonly produce fever after open heart surgery. First, of course, is bacterial endocarditis, but the other three are somewhat different in terms of significance. One of these is what we call "pump fever". Most patients who have undergone fairly lengthy periods of extracorporeal circulation will, within the first one to two to three days after surgery, have a temperature elevation which may range to 104°. The mechanism is not clearly understood but it is thought to be due to traumatized proteins within homologous blood. Usually within 48-72 hours the temperature returns towards normal. The third type of febrile response occurs in perhaps 10-20% of these patients; it is the so-called postpericardiectomy syndrome. Sometime within the first two months after open heart surgery the patient has the rather abrupt onset of fever, pleuritic pain, pleural-epicardial friction rub and often pleural and pericardial fluid. This is considered to represent some form of autoimmune disease and usually is easily managed with aspirin. The disease runs a benign course. The fourth entity is the postperfusion syndrome. This is quite different from the postpericardioectomy syndrome. Its onset is sudden with spiking fever. The temperature may reach 103-104°. The patient may have chills and a clinical picture mimicking bacteremia or viremia. The temperature usually subsides to normal each day, then spikes late in the afternoon of the subsequent day. A slight rash, splenomegaly and, occasionally, hepatomegaly are seen. Examination of the peripheral blood in these patients reveals a high percentage of abnormal leukocytes resembling those seen in infectious mononucleosis. The predominant opinion is that this disease represents a virus infection with a fairly long latent period. The illness may last as long as a month but it ultimately disappears without specific therapy. Obviously it is often very difficult to differentiate this particular entity from bacterial endocarditis. Usually multiple blood cultures are drawn to establish which is the correct diag-

nosis. I think in this patient we can assume that he had bacterial endocarditis since the protocol states that several blood cultures were positive for Staphylococcus aureus, coagulase negative.

He was responding well to treatment until August, 1964, when he had episodes of choking while lying flat which were relieved by sitting up. This strikes me as something more than just nocturnal dyspnea or orthopnea and makes me think of the clinical picture seen with ball valve thrombus or with atrial myxoma where changes in posture or position markedly alters the patient's symptoms. We will come back to that. At this time the patient again exhibited symptoms of right and left heart failure and was treated vigorously with medical therapy. It is mentioned in the protocol that, at this time, there was a change in the character of his murmur.

Dr. Albert J. Wasserman: No diastolic murmur was heard during the time he was hospitalized with endocarditis or his subsequent visits. The murmur appeared later.

Dr. Lower: This is an important observation unless it was erroneous. Most patients who have Starr valve replacement have very mild residual gradient across the valve as well as having the cage in the direct stream of blood. Therefore, enough turbulence exists so that it is not unusual to have a low grade systolic murmur following valve replacement. It is distinctively abnormal to have a diastolic murmur. Obviously the appearance of a diastolic murmur would clearly indicate improper functioning of the prosthesis. A change in the systolic murmur might be due to thrombus on the valve.

The patient was readmitted, needing further studies and further surgery, but refused both. His readmission physical examination revealed a widened pulse pressure 140/50, indicative of recurrence of his aortic insufficiency. He had atrial fibrillation and he was chronically ill. He is described as having a marked kyphosis. We are faced with determining a possible relationship between rheumatoid disease of the spine and aortic valve disease. Patients with rheumatoid arthritis, particularly rheumatoid spondylitis, are prone to the development of an aortitis which occurs in the most proximal portions of the aorta and is similar to the pathology of luetic aortitis and which ultimately results in aortic insufficiency. Since heavy calcification is not ordinarily a complication of his disorder, I presume we are not dealing with a case of rheumatoid aortitis and aortic insufficiency.

May we see the x-rays?

Dr. M. Pinson Neal: A chest film in March, 1964, shows marked kyphosis from the standpoint of his posture and from the standpoint of the increase in A/P diameter. The heart is grossly enlarged with rounding of the left ventricular salient. There is widening of the aorta. At this time both sulci are clear and the hilar vasculature was unremarkable. (Fig. 1). The films from the

Fig. 1. This film taken in March, 1964, shows kyphosis, a grossly enlarged heart and a widened aorta.

angiocardiogram reveals a markedly dilated ascending aorta, almost a 3-1 ratio with the descending. (Fig. 2) There was regurgitation through the aortic valve, the jet measuring approximately 1 cm. in diameter. The valve leaflets were distorted, fixed and some-

what thickened. It is important to note that the dilatation of the ascending aorta goes down to the level of the annulus which is

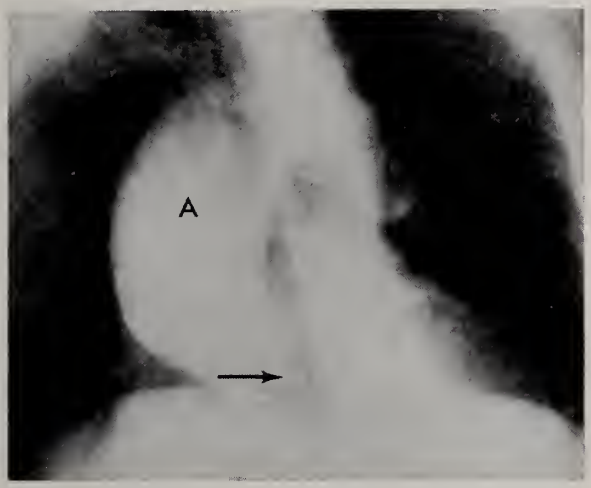


Fig. 2. This film from the angiocardiogram reveals a markedly widened ascending aorta (A) and a regurgitant jet (arrow) through the fixed, distorted aortic leaflets.

a bit unusual as far as the post-stenotic dilatation of the aorta based on a stenotic jet causing post-stenotic dilatation alone. In a

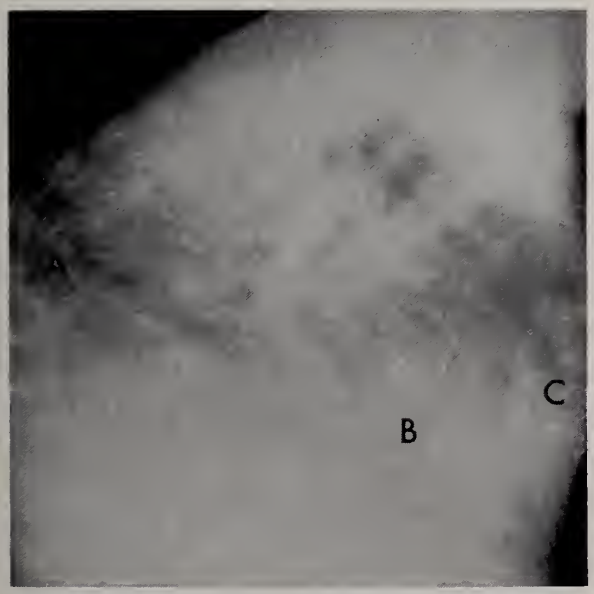


Fig. 3. This lateral view taken after the second surgery reveals the marked kyphosis (A), the Starr-Edwards prosthetic valve in place (B), anterior chest wall wire sutures (C), and diffuse pulmonary congestion.

PA film in October, 1964, after his second surgery, one can see the changes in the left ventricle persist. There has been no basic change in the caliber of the aorta. The pulmonary vasculature has a little more prominence at this time.

After the second surgery, we note again the transverse widening of the heart, the prominence of the left ventricle, and congestion and bilateral pleural effusions with no gross change in the cardiomegaly or the status of the aorta. The lateral film (Fig. 3) shows well the kyphosis, the Starr-Edwards prosthesis, and the wire chest wall sutures as well as the congestion. Fluoroscopy did demonstrate an irregular calcification in the aortic valve on several occasions and in looking through the series of films we did note a slight change in the character of the left ventricle presumed to be in part due to the digitalis and his degree of compensation.

Dr. Wasserman: Was there unequivocal evidence of rheumatoid spondylitis?

Dr. Neal: From the films we have, I would say unequivocal.

Dr. Lower: Dr. Neal mentioned the marked aortic dilatation. I am not sure how we are going to fit this in exactly because we do see rather pronounced aortic dilatation in patients with severe aortic stenosis who do not have additional disease of the aorta and the dilatation frequently extends nearly to the aortic arch. So we are faced with a problem of whether this degree of dilatation implicates some other form of aortic disease such as Marfan's disease or lues in this patient. Rheumatoid aortitis is so confined to the area immediately above the valve and the valve annulus that it usually does not cause aortic dilatation. This is one of the differential points between the rheumatoid and the luetic forms of aortitis. So there is a very slim possibility that this patient had Marfan's disease or Erdheim's cystic medial necrosis or some other form of aortitis.

The most significant part of the history to me is the description of the terminal episodes. These are described as being intermittent episodes of acute dyspnea and cyanosis with only slight response to oxygen. To me, this just means that he is in very serious trouble from cardiac failure and possibly means nothing else except that on May 22,

he was described as having two episodes of sudden onset of pallor, loss of pulse and prostration with spontaneous recovery of his vital signs. These episodes were within a short period of time. This is very unusual compared with the rather gradual downhill course which one might except to see on the basis of aortic insufficiency alone. This suggests that something else is wrong with the valve. The patient succumbed in one of these episodic attacks.

I will attempt to summarize my thinking about the diagnosis. I doubt that his original aortic valve disease was rheumatoid or rheumatic. There is no evidence, except the possibility of dilatation of the aorta, that he had syphilitic disease; there is no corollary evidence that he had Marfan's disease. These produce a picture that is predominantly of aortic insufficiency and not, as in our patient, predominantly aortic stenosis. We presume then, that he had congenitally bicuspid valve which developed heavy calcification and was resected.

The condition which ultimately caused his demise is obscure, but there are interesting possibilities. There are several things which can happen after Starr-Edwards valve replacement. There are some thousands of valves now that have been implanted and we are beginning to hear sporadic reports of certain unusual difficulties which one can get into with this valve. Occasional patients seem to have shrinkage of the ball after implantation and in at least two cases the ball decreased in size to the extent that it escaped from the cage. If the ball escapes into the general circulation it would obviously cause sudden death. However, if the ball escaped into the ventricle, through the bottom of the valve, it might conceivably have reentered the cage with recovery of the patient temporarily, but I don't think this happened to this patient. That changes in position of the patient markedly altered his clinical symptoms suggests that there may have been some way of interfering with valve function. I can think of two possibilities: one is a ball valve thrombus which formed on the valve at the time of his endocarditis, and the other is a possibility of mycotic aneurysm which formed in one of the sinuses of Valsalva at the time of his endocarditis. I would envision that it would be possible for such a Valsalva aneurysm to enter the left ventricle and interfere with function of the valve. Calcification was described as extending down into the septum and possibly may have served as a focus of endocarditis. Perhaps, in addition, formation of a mycotic aneurysm of the septum occurred. Since the mitral leaflet is often involved in the calcific process, it is possible that infection occurred at this site and that the mitral valve leaflet was detached subsequent to the infection. This would be a rapid downhill course without the fluctuations our patient had. In conclusion, some structure must have intermittently interfered with the function of the valve and I would submit that this will be either a mycotic aneurysm of the sinus of Valsalva or a ball valve thrombus. I would choose the former.

Dr. Bosher: Some of the confusion about the time of onset of the diastolic murmur might be related to the problem of examining him due to the marked distortion of this patient's chest. He had a tremendous anterior-posterior diameter and I think the occurrence of a diastolic murmur might have been a matter of the examiner's relative auditory acuity. I am reasonably confident that it occurred sometime around the development of the bacterial endocarditis.

Dr. Walter E. Neal, Jr.: Most of the senior students came to the conclusion that death was caused by some malfunction of the prosthesis. There were several diagnoses of death due to pulmonary emboli. Many suggested that the aortic disease was due to rheumatic heart disease and other diagnosed the Marie-Strumpell disease.

Ward Diagnosis:

1. *Pulmonary emboli*
2. *Aortic insufficiency*

Dr. Richard R. Lower's Diagnosis:

1. *Mycotic aneurysm of the sinus of Valsalva*
2. *? Ball valve thrombus of the Starr-Edwards aortic valve prosthesis*

Pathological Discussion

Dr. Rosser A. Rudolph: The surgical pathologists examined the original fragments of aortic valve and found the normal tissue replaced by fibrous scar tissue that was not only calcified but contained bone and bone marrow. Bone formation with marrow is not a rare finding in old scars.

At autopsy the prosector noted first a grossly enlarged heart. The pericardial sac was obliterated by fibrous adhesions, the pulmonary artery was dilated. The lungs and liver showed evidence of chronic heart failure.

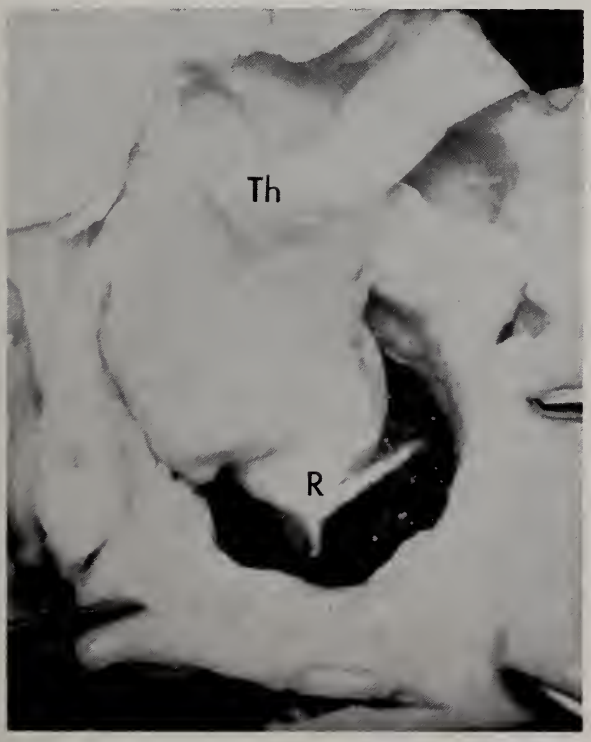


Fig. 4. From a view down upon the aortic ring, the 7 cm. thrombus (th) covers and arises from the ribs(R) of the prosthesis.

On opening the aorta, we found a large trailing, smooth, glistening rubbery mass covering the ribs of the Starr-Edwards prosthetic valve. (Fig. 4) It extended 7 cm. up the aorta. Part of this thrombus was a tent-like thin membrane that covered the "sinuses" of the valve. There was a 0.5 square cm. hole in the membrane which was the only point blood could flow through the valve.

The thrombus was light yellow and had a smooth glistening appearance suggesting that it was organized and had an endothelial covering. However, an endothelial lining could not be demonstrated by several methods. Sections from different areas of the mass revealed varying patterns. Fibrous organization was not present, although the mass had obviously been present for some time. It would be only speculation to attempt to date the thrombus from its microscopic appearance.

In addition, there was a 0.5 cm. separation (Fig. 5) between the base of the prosthesis and the aortic ring at the site of the original right and noncoronary cusps. A probe could be easily pushed through this area. Regurgitation through this defect could account for the diastolic murmur. It seems quite likely, because of aortic regurgitation, the tail of this thrombus could periodically have become wound, plugging the outflow of the valve in ball-valve fashion and causing the syncopal attacks. Reports of similar lesions have recently been reported.[1,2] In one of

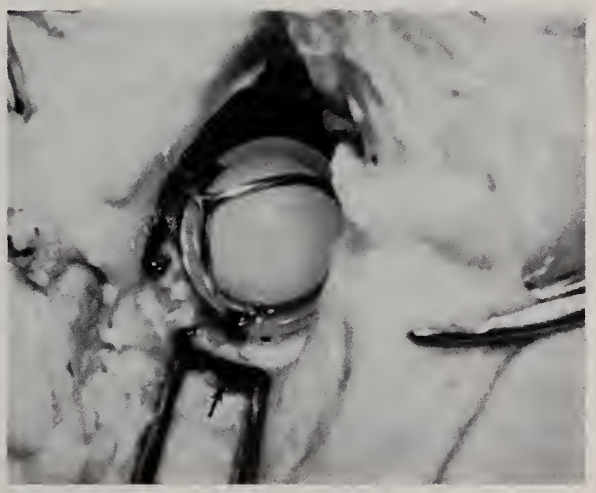


Fig. 5. The prosthetic valve is seen from the aortic side following removal of the thrombus. The probes delineate a defect (arrow) caused by separation of the prosthesis ring from the aortic annulus.

these, there was successful replacement of the prosthetic valve.[1]

As was suspected, calcification was present in the posterior leaflet of the mitral valve and to a slight degree in the ventricular outflow tract, but not in the interventricular septum. Multiple sections of aorta failed to reveal the changes of the type of aortitis sometimes asociated with rheumatoid spondylitis, as described by Toone, Pierce and Hennigar[3] and others. Stigmata of active or healed rheumatoid carditis were not seen in sections from various areas in the heart. I would agree with Dr. Lower that the original problem may have been a bicuspid valve.

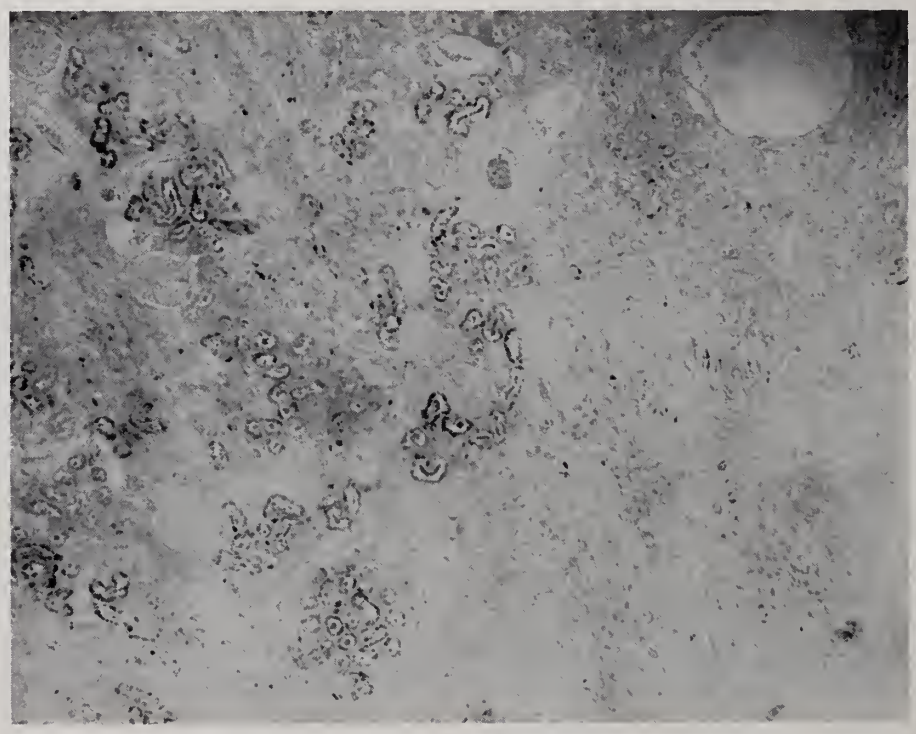


Fig. 6. A Prussian-blue reaction on a section of kidney reveals abundant hemosiderin in the proximal tubules. The distal tubules and glomeruli are spared. (magnification approx. 100 X)

Unusual microscopic findings were noted in the grossly unremarkable kidneys. Abundant golden brown pigment was present in the proximal tubules. Staining for the iron pigment, hemosiderin, showed intense diffuse deposition in the cortex (Fig. 6) a pattern resembling that found in paroxysmal nocturnal hemoglobinuria but quite different from the pattern found in hemosiderosis or hemochromatosis. Though the proximal tubule involvement was intense, the distal tubules and the glomeruli were spared.

Dr. Charles W. Moncure: What do you think is the significance of the pigment in terms of renal function?

Dr. Rudolph: There was no clinical evidence of decreased renal function in this case. However, valve replacement has not been with us long and the renal accumulation of hemosiderin may prove to be a limiting factor in long term survival.

The mechanism seems to be a low grade chronic mechanical hemolysis usually not of significant proportion to produce a clinically apparent hemolytic anemia. Dr. Murray Anderson and colleagues[4] measured haptoglobin levels of their patients and found, in virtually all, very low and even absent levels of serum haptoglobin. Apparently there is insufficient haptoglobin present to bind hemoglobin, the hemoglobin is filtered immediately through the glomeruli and taken up in the proximal tubules. It

remains to be seen what long term effect this will have on renal function.

Thus, there were three of the complications in this patient that can occur after insertion of the Starr-Edwards prosthesis: thrombosis of the prosthetic valve, separation of the valve from the annulus, and the hemolytic process. The overall postoperative mortality rate among the Starr operated cases is about 25% but has decreased as experience has accumulated.

Dr. Moon: Dr. Bosher, would you comment on this patient's anticoagulation therapy?

Dr. Bosher: I think it is of considerable importance now to inquire about this patient's anticoagulation therapy. He originally was on anticoagulation following his operation and this was discontinued at the time he developed the presumed bacterial endocarditis. He was not restarted on anticoagulation therapy, perhaps because I wasn't insistent enough at that time. We weren't convinced then that it should be continued on patients with aortic valve prosthesis. Whether this had anything to do with the onset of the thrombus or whether it could have been prevented had he been on anticoagulation therapy, I don't know.

The other point I wish to make is that patients with aortic insufficiency without a prosthesis have an abnormally high degree of hemolysis and that after the insertion of an aortic valve prosthesis they still have an abnormal level of hemolysis. There are a few patients that develop a relatively marked degree of hemolysis and most of these patients, if not all, have residual aortic insufficiency. If one then removes that prosthesis and inserts a new one, this time with no aortic insufficiency, the level of hemolysis is then diminished. Whether the hemolysis in this case was related to the residual aortic insufficiency that he had together with the prosthesis or to the long course of aortic insufficiency which he had, we do not know.

Dr. Fairfield Goodale: Dr. Bosher, what is the relationship between the hemolysis and the time that patients are on the pump? Do you see hemolysis in the immediate postoperative period?

Dr. Bosher: Yes, but this in an acute episode and I don't believe that it would be enough to cause the degree of iron deposition shown. Certainly patients have been studied who had not had the aortic valve prosthesis problem and had not shown this. Patients with mitral valve prosthesis do not have increased hemolysis.

Dr. Rudolph: Dr. Anderson[4] found hemolysis and haptoglobin depletion with mitral as well as with aortic prosthesis. However, the process was milder in cases with mitral prostheses. I think we should distinguish between the constant low grade mechanical hemolysis which apparently occurs in all ball-valve prostheses, usually without anemia, and the clinically significant hemolytic anemia that is occasionally a problem in aortic valvular disease.

Dr. Moon: As I recall, no one has clearly correlated the hemolytic process with the type of insufficiency or the cause of the insufficiency. Hemolysis does occur fairly frequently during the course of various collagen vascular disease and the Marie-Strumpell arthritis-aortitis is one of the "collagen vascular diseases". Hence, the hemolysis may be related to an intrinsic serum defect rather than to the insufficiency per se.

Pathological Diagnoses:

Thrombus of Starr-Edwards aortic valve prosthesis
Partial separation of prosthesis ring from annulus
Red blood cell hemolysis of uncertain cause
Renal hemosiderosis, marked

References

1. Spencer, F. C., Trinkle, J. K. and Reeves, J. T.: Successful Replacement of a Thrombosed Mitral Ball-Valve Prosthesis. J.A.M.A. 194:1249-1251, 1965.
2. Calvin, O.M., Waldman, M.D., and Lee, S.: Staphylococcal Infection of a Starr-Edwards

Prosthesis, with Fatal Obstruction of the Mitral Valve. New England J.M. 273:1380-1381, 1965.

3. Toone, E. C., Jr., Pierce, E. L., and Henniger, G. R.: Aortitis and Aortic Regurgitation Associated with Rheumatoid Spondylitis. Am. J. Med. 26:255-263, 1959.

4. Anderson, M., Gabrieli, E., and Zizzi, J. A.: Chronic Hemolysis in Patients with Ball-Valve Prosthesis. J. Cardiovasc. Thor. Surg. 50:501-510, 1965.

Great Society Budget and You

As you make ready to pay your income tax, ponder the Great Society's wondrous "war" budget you support. An additional 5.5 billion dollars is being squeezed out of you this year to pay for educational gadgetry, farm fat, housing extravagance, and swollen bureaucracy.

Walter Lippman has said, "The complex of welfare measures has become unmanageable. No one wishes to stand up and say he is opposed to schools, hospitals, aid to the poor, and the like. But there is a wide revolution against the expanding and heavy-handed role played by the federal government."

Sen. Robert Kennedy of New York has said that untangling this thicket of aid programs is the most serious problem in government today. Sen. Charles Percy of Illinois has said, "It's time we started solving problems instead of throwing money at them."

House Appropriations Chairman George Mahon of Texas had laid the issue squarely on the line, "Congress is not going to practice restraint, unless the message comes through loud and clear from the people."

American medicine is not the least involved sector of the Great Society program. So, doctor, as you pay your tax, ponder your plight of a twofold downfall. There is a heavy bite on your wallet and a stifling of your profession through the programs your taxes support. Why don't you strike back by detailing your concerns in a letter to your Congressmen?

—*Medical Bulletin of Northern Virginia*

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Institute on Control of Hospital Infections

The control of infections in hospitals and institutions is a problem of continuing concern to both public and private medical personnel. Infectious diseases that may constitute problems in hospitals are numerous and include infantile gastroenteritis, staphylococcal and streptococcal diseases of various types, virus diseases, (such as exanthemata), virus hepatitis and influenza, urinary infections and various kinds of wound infection.

Late in 1965, the United States Public Health Service in cooperation with The Medical Society of Virginia, the Virginia State Department of Health, the Virginia Nurses Association, the Virginia Hospital Association, the University of Virginia School of Medicine and the Medical College of Virginia conducted a training institute on "Infections Control in Hospitals and Institutions." Directed primarily toward administrative personnel, it was designed to train hospital administrators, hospital infection control committeemen, public health physicians and nurses, directors of nurses and head nurses.

The purpose of the institute was to provide an overall view of the technical areas of an epidemiological approach to infections control in hospitals and institutions, and to stimulate the development of training programs for appropriate personnel.

The staff* for the course was drawn from the sponsoring agencies, and course content consisted of:

- the problem of infection and applied epidemiologic principles for its control;
- a presentation of epidemics in hospitals and their investigation;
- legal responsibilities;
- infection Control Committees' approaches and other aspects related to the surveillances of a control program.

The problem was well established during the opening session, at which time it was noted that the overall rate of nosocomial infections is 5% of all hospital patients. This figure was translated into resulting additional costs in time and money. Additional time required to be spent in the hospital approximated two weeks for each patient that developed infection. The suffering the patient must endure cannot be measured but it is a vital consideration and must be considered along with other reasons for the necessity for the best possible surveillance and control efforts.

Emphasized during the conference was the need for additional time to be devoted to bacteriological research and infectious disease control programs—fields which have received too little attention since the advent of penicillin and other antibiotic drugs.

Actions urged by the speakers included:

- careful use of antibiotic drugs as a preventive of various infections;
- more rigid application of infectious diseases control practices in hospitals;
- more emphasis on bacteriology in the training of laboratory workers and on communicable disease control techniques in the training of nurses, nurses' aides, and other members of the health professions;
- expansion of laboratory facilities for the early detection of epidemic strains;
- collection of more adequate data on the extent of the problem;
- intensified research to find specific meas-

ures to prevent and control infections which do not respond to antibiotic treatment;

good medical records as a source of protection against legal action resulting from patient infection.

The speakers noted that a growing number of hospitals are already applying some of these measures and are taking quick action to identify the problem in order to prevent it from reaching epidemic proportions.

With modern testing techniques, it was noted, the antibiotic resistant strains responsible for specific outbreaks can be readily identified. Control measures using this knowledge should help to curb the problem.

Infection is not limited to the walls of an institution; it is a community problem. Much hospital acquired infection is not recognized until the patient has left the hospital which makes it difficult to establish the rate of infection. It, therefore, should become the concern of every physician.

All disciplines involved with medical care should be aware of the problems and should identify its particular role in controlling the problem. The Virginia State Department of Health stands ready to promote and assist any programs designed to understand and reduce institutional acquired infections.

---

*Dr. Philip Brachman, Chief, Investigations Section, Epidemiology Branch, CDC, PHS, Atlanta, Georgia

Bernard Brown, DVM, Training Branch, CDC, PHS, Atlanta, Georgia

Charles Cardwell, HA, FACHA, Vice President and Director of Hospitals, Medical College of Virginia, Richmond

Dr. Clifton K. Himmelsach, Associate Dean, Georgetown University Medical and Dental Schools, Washington, D. C.

Raymond Hogan, Administrator, Lynchburg General Hospital, Lynchburg

Dr. James B. Kenley, Director, Division of Medical and Hospital Services, Virginia State Department of Health, Richmond

Dr. Calvin M. Kunin, Associate Professor, Preventive Medicine and Medicine, University of Virginia, Charlottesville

Dr. Rosemary Lindan, Administrator, Infections Control, Highland View Hospital, Cleveland, Ohio

Dr. G. T. Mann, Chief Medical Examiner, Virginia State Department of Health, Richmond

Dr. Regina C. McCormack, Instructor of Preventive Medicine, University of Virginia School of Medicine, Charlottesville

Dr. R. W. Moseley, Regional Director of Local Health Services, Division of Local Health Services, Virginia State Department of Health, Richmond

Dr. Richard E. Palmer, Pathologist, Alexandria Hospital, Alexandria

Sister Maureen, Director of Nursing, DePaul Hospital, Norfolk

Dr. F. J. Spencer, Professor and Chairman, Department of Preventive Medicine, Medical College of Virginia, Richmond

Dr. Denver Vickers, Assistant Director, Joint Commission on Accreditation of Hospitals, American Hospital Association, Chicago, Illinois

---

Monthly Report of Bureau of Communicable Disease Control

	Mar. 1967	Mar. 1966	Jan.-Mar. 1967	Jan.-Mar. 1966
Brucellosis	3	1	11	3
Diphtheria	0	0	0	0
Hepatitis	55	76	162	191
Meningitis (Aseptic)	1	1	3	1
Meningococcal Infections	2	7	14	21
Poliomyelitis	0	0	0	0
Rocky Mt. Spotted Fever	0	1	0	2
Rubella	84	228	143	313
Rubeola	413	227	770	549
Streptococcal Infections	1776	1418	4915	3581
Tularemia	0	0	0	2
Typhoid Fever	1	0	2	4
Rabies (in Animals)	29	36	62	95
Venereal Diseases				
Syphilis	162	137	535	416
Gonorrhea	777	578	2143	1944
Other	0	0	1	6

Mental Health . . . .

JULIAN C. HOUSEMAN

Department of Mental Hygiene and Hospitals

The 1966 General Assembly's generous appropriations to the Department of Mental Hygiene and Hospitals for both the maintenance and operations budget and capital outlay expenditures will permit sizeable growth of Virginia's mental institutions in physical plants as well as in staffing.

Highlights of these biennium appropriations are:

(1) $62,507,000 for maintenance and operations, or a 23 per cent increase over the 1964-66 biennium,
(2) $17,000,000 in new appropriations and reappropriations for capital outlay in the development of physical plants at the hospitals, including at least one new building at each site,
(3) Final appropriations for the completion of the Northern State Hospital at Falls Church which will greatly expand both in-patient and outpatient mental health services in that area,
(4) $141,000 for drawing plans for a 500-bed facility for the mentally retarded in Northern Virginia.

It might be well to point out here, too, that during 1966, Governor Mills E. Godwin, Jr., approved a series of salary adjustments for all professional personnel in the hospitals, including physicians, psychiatrists, psychologists, nurses and psychiatric social workers. In addition to these adjustments, attendants, food service employees, and other back-up personnel were granted salary increases. These adjustments have already attracted more physicians and they will be equally helpful in retaining experienced workers already in the system.

To say or assume that these forward movements are a sudden awakening to the mental health facilities in Virginia by the State's policymakers would be to ignore completely the careful planning and restructuring of the Department which has taken place during the last ten years. During these ten years, Virginia has moved steadily forward in laying the groundwork for what is now beginning to come into fruition.

While Virginia was struggling through the postwar years of growth and expansion in many areas, it is true that mental hospitals seemed to take a back seat to what many felt were more urgent needs. This is not to say that the care and treatment of mental patients were overlooked or neglected because since almost the very beginning, the State has been alert to the needs of mental patients. Brick, mortar and steel have never been a true measurement of what went on inside the hospital buildings, old and worn out though some of them were.

It might be well at this point to pause for a backward look. Virginia's mental hospital system is the oldest in the nation, with the first hospital being established in Williamsburg in 1773. Western State Hospital at Staunton opened in 1828; Central State at Petersburg in 1865, and Southwestern State at Marion in 1887. The Lynchburg Training School and Hospital was started in 1906, but it was and still is a specialized institution for retardates and those patients suffering brain damage.

Thus the mental hospitals are located on sites that served the population of Virginia as it was in early 1800. Fantastic as it may sound, Virginia's population center has been moving gradually eastward since World War

HOUSEMAN, JULIAN C., *Information Director, Department of Mental Hygiene and Hospitals.*

Approved for publication by the Commissioner, Department of Mental Hygiene and Hospitals.

II and during the twenty years intervening, that center has moved 50 miles eastward from a point about at Zion's Cross Roads to a point just west of Richmond.

Obviously, these multi-building campuses could not be abandoned overnight. It would be not only physically impossible, but also economically unsound to relocate the institutions in a short span of years. The challenge then was to plan construction on present sites to meet the growing needs and search for additional locations for future needs. The first steps in this direction are being taken with the completion of Northern State Hospital at Falls Church this summer and the plans for a 500-bed hospital for the retarded at a Northern Virginia location, which will perhaps get under construction during the 1968-70 biennium.

As the Department moved into the beginning of the past ten years, it seemed a sound policy to plan on lasting programs and those that would continue to stand the test of time. These past ten years have seen tremendous developments in the treatment of the mentally ill. The "open door" policy came into being; electric shock treatments gave way to drug therapy; short-term intensive treatment with continued backing in the home community through clinics increased. Then too, now is the trend to smaller hospitals for intensive treatment, at which are located much larger facilities for out-patient and day-patient treatment.

Even today there rages a constant debate among psychiatrists as to the best methods of treating mental illness. But a happier sign is the growing awareness of the public that mental illness, while it affects the mind, is hardly different from physical illness.

What has been accomplished during these ten years from 1956 through 1966? Far more than even those who appear to show a deep interest realize. A totally new facility, Petersburg Training School, was opened in 1960 at a cost of $4,245,891. The Virginia Treatment Center for Children in Richmond cost $1,790,407 in 1962. At the five existing facilities, there have been a total of 128 construction projects costing a total of $51,733,922 as of September 16, 1966. These construction programs do not reflect in the $17,000,000 for capital outlay now under way or on the drawing boards for the current biennium.

A breakdown by institutions shows:

Institutions	*No. Projects*	*Costs*
Central State Hospital	32	$10,943,310
Eastern State Hospital	24	$12,818,714
Southwestern State Hospital	24	$ 3,401,735
Western State Hospital	26	$10,288,039
Lynchburg Training School and Hospital	31	$11,961,134

It might be well here also to review the gradual growth of the maintenance and operation budget of the Department over the past ten years for this, too, is as dramatic as that of the construction program. The biennium appropriations follow:

1956-58	$31,636,309	
1958-60	$35,789,950	increase of 13%
1960-62	$40,903,844	increase of 14%
1962-64	$46,417,281	increase of 14.2%
1964-66	$50,674,850	increase of 9.2%
1966-68	$62,507,000	increase of 23%

Thus it will be seen that appropriations for the current biennium are more than double those of the 1956-58 budget years, the period of time that is discussed. These maintenance and operations budgets are the totals for the operation of the four mental hospitals and the two training schools and do not include the operating budgets for clinics or of DeJarnette Sanatorium in Staunton.

The real impact of these continuous increases in the maintenance and operation budgets is seen in a similar comparison between the number of patients and the number of employees. There are two measurements to be taken into consideration for a patient count. One is the total number of patients "on the books". This is the total registration at a hospital. The second is the number of patients "in the hospital", which are those physically in the facility. The difference between the two figures takes into

consideration those patients on furloughs, trial visits and leaves.

The total patients "on the books" as of July 1, 1957, was 16,552, and the comparable count as of July 1, 1966, was 19,009, or an increase of 2,447; 15 per cent. The total patient load physically in the institutions in 1957 was 13,869 with the comparable count of 14,845 in 1966 or an increase of 8 per cent.

An even more dramatic comparison is seen in the fact that in 1957 there were 3,326 employees, while in 1966 there were 5,157, an increase of 55 per cent. A breakdown of those employees dealing directly with patients is seen in the following table:

	1957	*1966*
Physicians	48	102
Nurses	115	164
Attendants	1,876	3,063

There were no separate categories for counting such patient employees as practical nurses, psychologists, psychiatric social workers, occupational therapists or laboratory specialists. The 1966 staffs include 78 licensed practical nurses, 15 psychologists, 14 psychiatric social workers, 5 occupational therapists and 6 laboratory specialists.

It should be pointed out also that the current budgets provide for the employment of an additional 500 staff personnel and many of these new positions have been filled since July 1, 1966.

A five-building geriatrics complex is nearing completion at Eastern State Hospital and the contract has been let for a new medical-surgical building there and scheduled for completion in 1968. With the completion of these two projects, Eastern will be able to complete its transfer from the original location in downtown Williamsburg to the new site in James City County, just west of the city. Thus it will become one of the most modern multi-building mental hospitals in the nation.

A rehabilitation-occupational therapy building is now being completed at Western State Hospital at the new site just east of Staunton and will be occupied in early spring. Bids will be taken shortly for a medical-surgical building at the same site as this institution is gradually moving from the original downtown site.

Funds have been appropriated for four new buildings at Central State Hospital, with architect drawings for two of them already approved by the State Hospital Board.

A geriatrics building will be under construction soon at Southwestern State Hospital at Marion and the remodeling of the kitchen-dining area is already under way.

A vocational-social building and a dormitory for infirm patients is planned for Lynchburg Training School and Hospital.

A nine-building center for high-grade retardates will open in early spring at Lynchburg to house about 400 such patients. This will be the first of this type of treatment center in the nation.

When this construction is completed, there will be a total of 1,586 new beds in the hospital system.

It has been a policy of the State Hospital Board to maintain a continuing inventory of the hospital system. It is their desire and goal to seek accreditation for all the hospitals with the hope of full accreditation by 1972. Beginning early in 1966, a series of inspections were made of all the mental hospitals to ascertain what must be done to qualify for accreditation by the Joint Commission on Hospital Accreditation. The two prime weaknessses found were the poor condition of some buildings at most of the hospitals and a shortage of professional personnel. The physical plant inadequacies are being corrected under the present construction projects detailed above and some progress is being made in employment of professionals since the salary adjustments granted by Governor Godwin.

In an effort to alleviate the shortage of licensed practical nurses, three of the hospitals, Western, Eastern, and Central, have granted educational stipends of a total of 19

psychiatric attendants to attend LPN courses at local community hospitals. In addition to this, Western, in cooperation with the King's Daughters' Hospital in Staunton and the Augusta County Public School system, is conducting four months of nursing theory at the mental hospital for twelve psychiatric attendants, after which they will go to King's Daughters' Hospital for eight months of clinical training.

In a further effort to strengthen training of personnel outside of the hospital who may deal with the emotionally disturbed, the Department, with the cooperation of the Department of Psychiatry at the Medical College of Virginia, organized the Virginia Advisory Committee on Inservice Training in Mental Health. This committee, organized in 1965, has the objective of sponsoring in-service training programs for such personnel as social workers, pastors, public health nurses, child welfare workers, visiting teachers, probation officers and other interested people. From the hospital staffs, occupational therapists, attendants, nurses, social workers and chaplains were encouraged.

The first pilot project was held at Central State Hospital in the form of twelve, two-hour weekly courses on Personality Development. Dr. George Kriegman, associate professor of psychiatry, Medical College of Virginia, gave the lectures and 52 persons from in and around the Petersburg area attended.

The second project was a three-day workshop on Skills and Techniques in Working with Patients and Families held at Radford College in June, 1966, with 32 attending.

A third project is being planned for this spring (1967) with the time, place, and subject matter to be decided upon later.

It should be noted here that the Department has taken definitive action in implementing many of the recommendations of the Virginia Mental Health Study Commission, which made its report March 31, 1965. The original study group consisted of 80 members representing a broad spectrum of viewpoints. There were psychiatrists, physicians, social workers, psychologists, educators at all levels and other business and professional men and women. The Commission named regional study groups in each of the Congressional Districts and hundreds of persons were drawn into the work on those levels.

Of the total of 65 recommendations, many of them were directed at other State Departments including Education, Welfare and Institutions, Health, and Rehabilitation, as well as many institutions included in the private sector of Virginia.

The Department of Mental Hygiene and Hospitals has worked closely with other State agencies in carrying out or at least inaugurating the beginnings of some of the Commission's recommendations. Much of the Department's legislation program offered to the 1966 General Assembly reflected the implementation of the Commission's report.

C. A. Wharton, Jr., who served as the Commission's co-ordinator, was appointed as the Department's Director of Planning and he has been very active in working with local communities in organizing mental hygiene clinics as well as developing an interest in the establishment of community mental health centers.

The Department's legislative program ranged from the establishment of the Recodification Commission to study and rewrite the State's mental health laws to drastic increases in appropriations for the operation of the mental health facilities and capital outlay for physical plants.

A rehabilitation program, under the direction of Dr. A. Ray Dawson, has opened at Central State Hospital, with similar projects to develop at other hospitals in 1967. The Central project has been rewarding. Fifty-seven patients have been assigned to a separate building where they not only live, but also work at learning such skills as home economics, sewing, typing, and trades such as metal work, electricity, and handcrafts. Contacts have been made with several Pe-

tersburg employers to use the patients as they develop the capability to move into the outside world to work. Two such patients are now so employed, although they return to the hospital each night. The goal, of course, is to return these patients to their home community, hopefully permanently, where they can resume a normal life.

The Mental Retardation Planning Council, published its report early in 1966 and Mrs. Ann M. Harvey was employed as the director of this Council to implement its 26 recommendations.

The aftercare program is moving steadily ahead in progress. The Department has met with representatives of the State Health Department to develop an inservice curriculum for public health employees who will be working with patients referred to community health departments for aftercare treatment. Psychiatric social workers have been assigned clinics in Virginia Beach, Newport News, Richmond, Roanoke, Fairfax and Alexandria to serve as a liaison between the referring hospital and the patients, the clinics, families and others involved. Two new clinics have been opened—one at Harrisonburg and the other at Clifton Forge—in preparation of increased aftercare referrals.

The clinic program in Virginia has expanded commensurately with the other activities in the Department over the past ten years by virtually every yardstick. Eight new clinics have been opened during the past ten years with the State's contributions towards the total clinic increasing during each biennium. The State appropriation for clinic operations for the 1956-58 biennium was $499,229; the appropriation of the last General Assembly for the current two-year period amounts to $2,002,795, four times as much as ten years ago. As a matter of fact, the increase in the current biennium over the 1964-66 period of $864,170 is much larger than the total State clinic contribution just ten years ago.

The case loads in the clinics have nearly doubled. There was a total of 8,419 cases handled by the twenty clinics in existence for fiscal 1957 as compared to 15,504 cases in the 27 reporting clinics for fiscal 1966. The clinic staffs today total 192 employees, including 42 physicians, some of them maintaining a schedule of office hours for treatment and consultation; 38 psychologists and 35 psychiatric social workers. The remaining are accounted for in back-up personnel.

Nursing surveys have been made at all hospitals in order to establish the minimum staff requirements and to establish work schedules to obtain the maximum results with the present staffs. These surveys, of course, serve also as guidelines to adding staff members as they become available or are recruited.

Salary adjustments have been granted to all professional personnel throughout the hospital system and an upward trend in recruitment has been noted. The increases for physicians as of July 1, 1966, has attracted 28 new doctors at the hospital staffs and similar success has been achieved in employment of nurses, psychiatric social workers and psychologists.

Salary increases for attendants, food service, and building and grounds personnel will assist greatly in retaining those now employed as well as in attracting new employees.

A three-year residency in psychiatry has been accredited at Eastern State Hospital with a working agreement with the University of Virginia School of Medicine. Central State Hospital has a residency program in conjunction with the Medical College of Virginia.

The contract with the National Institute of Health for the PKU study at Lynchburg Training School and Hospital has been renewed. Under this research project, patients at Eastern State, Central State, Western State and Lynchburg have been tested for the presence of PKU and Southwestern State patients will be given similar tests during this year.

While Virginia pioneered the public mental hospital, it has admittedly not maintained that pace of leadership. This State, like many others, put mental hospitals aside to confront what were thought to be more pressing problems, such as public education, highways, and other obvious patterns of growth for which the public clamored. Unfortunately, the mental patients had no public lobby to traipse the legislative halls or to mount the hustings during political campaigns.

Yet it can be easily seen from the growth pattern of the past ten years that concern for the mental hospital system has pushed to the forefront—so much to the forefront that the Department fared as well as other Departments, if not better, in gaining its share of recognition from the 1966 General Assembly and the attention of the new Governor.

The accomplishments of 1966 and the programs to be continued into 1967 surely indicate that all is not static with the Department; that there is an awareness of room for constant improvement. There is, too, the awareness that only those programs which can have a lasting influence on the care and treatment of patients are worthwhile embracing. It does no good to embark on a program with great fanfare only to find that it dries up in two to three years from a lack of enthusiasm or unavailable funds.

Prescription Prices Decline

New evidence of declining prescription drug prices was disclosed recently by the U. S. Department of Labor.

Its consumer price index for prescriptions reached a new average low of 90.6 for 1966, nine percent below the 1957-59 base period.

In the last three months of the year, the drug index dropped to 90.3, down two-tenths of a point from the previous three months.

The Labor Department's Bureau of Labor Statistics attributed the latest decline to price reductions for anti-infective, tranquilizing and anti-arthritic medications.

C. Joseph Stetler, president of the Pharmaceutical Manufacturers Association, commented:

"The trend of prescription drug prices is definitely down. And it is down during inflation of most other price levels.

"This means savings for patients and their families. If drug prices had followed the course of the government's 'all-item' index, the cost of drugs bought in 1966 would have been nearly 25 percent higher."

—*Medical Bulletin of Northern Virginia*

Etiology of Meningitis at the Medical College of Virginia 1961-1965

Although there have been a number of papers in the recent literature on meningitis, none of these has been concerned with our general area of the country. It is now a well established fact that any study of infectious disease will be influenced somewhat by the local conditions, both genetic and environmental, of the patient population. The charts of patients with meningitis from this institution were reviewed for the past five years, with the aim in mind that this information might serve as a guide to our staff for evaluating current medical findings of this disease in Virginia as compared with similar findings in other parts of the country.

TABLE I

ETIOLOGY AND MORTALITY OF MENINGITIS AT THE MEDICAL COLLEGE OF VIRGINIA 1961 THROUGH 1965

		Number of Cases	Number of Deaths
1.	Aseptic	148	1
2.	Cryptococcus neoformans	3	0
	Candida albicans	1	0
	Mycobacterium tuberculosis	19	2
	Diplococcus pneumoniae	54	15
	Neisseria meningitidis	40	0
	Hemophilus influenza	88	8
	Alpha Streptococcus	3	2
	Beta Streptococcus	1	0
	Enteric Streptococcus	1	1
	Leptospira sp.	1	1
	Staphylococcus epidermidis	10	4
	Pseudomonas aeruginosa	5	4
	Aerobacter sp.	3	3
	Escherichia coli	5	4
	Bacillus sp.	1	0
	Mima polymorpha	1	0
	Salmonella Gr. B	1	1
	Paracolon sp.	2	2
	Corynebacteria sp.	3	0
	Listeria monocytogenes	2	1
	Treponema pallidum	3	0
	Gram-negative bacillus	2	0
	Multiple organisms	6	4
3.	Bacterial unknown	82	15
4.	Unclassified	27	6
	Total	512	74

Table I lists the etiological agent when known or type of meningitis when unknown, number of cases and number of deaths. Four major divisions of meningitis were used, aspectic, bacterial with known etiology (which also included fungal agents), bacterial of unknown etiology and unclassified. The aseptic cases were considered to be those with a clinical picture of meningitis, spinal fluid cell count 1,000 cells or less (predominately lymphocytes), normal spinal fluid sugar and bacterial and fungal cultures negative. The bacterial meningitis of known etiology had, in addition to the positive clinical and laboratory findings in which great emphasis was placed on a low spinal fluid sugar, one or more cultures positive for the etiological agent. Two exceptions to this rule were those caused by *Treponema pallidum* and *Leptospira* where the diagnosis was established by positive serological tests. Among the cases there was a large number that presented the picture of bacterial meningitis, spinal fluid cell counts usually over 1,000, predominance of neutrophils, low spinal fluid sugar, but no detectable etiological agent. There was a fourth relatively small group that was difficult to classify and could be either a partially treated bacterial or an unusual form of aseptic meningitis.

There were 148 cases of aseptic meningitis with one death. No cultures for virus were done in any of these cases in an attempt to establish the etiology of the infection and in less than 8% complement-fixation tests were done. The possible etiological agent was established primarily by clinical history in 20% of the cases. In those cases the order of frequency was mumps, rubeola, herpes and rubella. The etiology of the other 80% of the cases of aseptic meningitis can be considered only on the basis of supposition until the clinician learns to utilize virus isolation and serological techniques that have

been available in this institution for over two years.

The major cause of bacterial meningitis in this series was *Hemophilus influenza*—88 cases with eight deaths. This was followed by *Diplococcus pneumoniae*—54 cases, 15 deaths and *Neisseria meningitidis*—40 cases, no deaths. These three organisms accounted for 71% of all cases of bacterial meningitis of known etiology. They also accounted for 43% of the 52 deaths in this group. *Mycobacterium tuberculosis* stood in fourth place of common etiological agents in meningitis with 19 cases. It is of interest that the mortality for this once dreaded disease was only about 10% in this series, considerably below the overall bacterial meningitis fatality rate of 20.4%. Five cases of meningitis were due to streptococcal infection and 10 cases due to *Staphylococcus epidermidis*. Seven deaths occurred in these 15 cases. It would appear that these infections have a considerably poorer outlook than those of the other gram-positive coccus infection, that is to say *Diplococcus pneumoniae*. While *Staphylococcus aureus* is a major cause of septicemia in our hospital, no cases of meningitis were attributed to this pathogen during the period studied.

The gram-negative bacilli of fecal origin as represented by the *Pseudomonas, Aerobacter, Escherichia, Salmonella* and *Paracolons* were found to be the etiological agent in 16 cases. Eighty-seven per cent of these patients died. This is to be expected for two reasons. First, this is a common agent in meningitis of newborns and burn cases (individuals with a low level of resistance to infection) and secondly, effective drugs for the treatment of gram-negative infections still are badly needed. In a similar category, fortunately a small one, are cases of meningitis due to a mixed infection. The common mixtures are enteric bacteria with a streptococcus or mixture of several types of gram-negative bacilli. Two-thirds of the cases with mixed flora in the spinal fluid died.

The *Bacillus sp.* and *Corynebacterium sp.* are two groups of organisms of low virulence. These have been found associated with a mild type of meningitis in patients having shunts in hydrocephalus or skull plates. That these are related to the meningitis was generally demonstrated by multiple positive cultures on different specimens.

The etiology of bacterial meningitis according to age is shown in Table II. This reiterates the affinity of certain organisms for causing disease in a given age group. It

TABLE II

Etiology of Bacterial Meningitis According to Age

	Newborn to 3 Mos.	4 Mos. to 3 Yrs.	4 Yrs. to 12 Yrs.	13 Yrs. to 20 Yrs.	21 Yrs. to 40 Yrs.	41 Yrs. to Over
Total Cases	35	151	63	16	15	57
Fungal	0	0	0	0	13.3%	3.5%
Tuberculosis	0	3.3%	3.2%	25%	20.0%	8.8%
D. pneumoniae	8.6%	9.9%	9.5%	31.3%	20.0%	43.9%
N. meningitidis	5.7%	9.9%	25.4%	18.8%	0	1.8%
H. influenza	14.3%	46.4%	20.6%	0	0	0
Strep.	5.7%	0.6%	1.6%	0	0	1.8%
Enteric bacilli	22.9%	1.8%	0	0	13.3%	7.0%
Staph. albus	2.9%	0	6.3%	0	6.7%	7.0%
Bacillus sp.	2.9%	0	0	0	0	0
Listeria m.	5.7%	0	0	0	0	0
Gm. neg. bacil.	2.9%	0	1.6%	0	0	0
Corynebact.	0	0.6%	0	6.3%	0	1.8%
T. pallidum	0	0	0	0	0	5.3%
Leptospira	0	0	0	0	0	1.8%
Mixed	2.9%	0.6%	3.2%	6.3%	0	1.8%
Bact. unknown	25.7%	26.5%	28.6%	12.6%	26.7%	15.8%

also emphasizes the fact that 80% of the cases of meningitis occur in the first two decades of life. Further, a rather constant number of cases occur in which no etiological agent is found. In all probability this is due to antibiotic therapy given before admission to the hospital. In this series about 50% of the patients received such therapy in varying degrees.

The etiology presented here does to some degree reflect the pattern reported from other areas. Nevertheless, it should be noted from the above that some agents reportedly of low frequency appear rather commonly in this institution.

M. J. Allison, Ph.D.
H. P. Dalton, Ph.D.

Division of Clinical Pathology
Medical College of Virginia
Richmond, Virginia

Mortality from Fires and Explosions

Fires and explosions continue to be a large and persistent problem in the United States.* Together they take over 7,000 lives each year, an accident toll exceeded only by motor vehicle fatalities and deaths from falls. Many more people are injured from this cause. While the number of such nonfatal injuries is not known precisely, some indication may be provided by data from the National Health Survey which show nearly 2 million persons each year sustaining burns severe enough to cause at least one day of restricted activity or require medical attention—a figure which includes burns from causes other than fires or explosions.

The number and the rate of fatalities from fires and explosions have been fairly constant in recent years. In 1964, the latest year for which official data are available, the death rate from this cause was 3.9 per 100,000 population, moderately lower than the figure of 4.3 in 1963. The rate varied only slightly from 4 per 100,000 during the five years prior to 1963. Valid comparisons with the years before 1958 are not possible because of changes in the classification of these fatal accidents.

Fires and explosions exact their heaviest toll in winter; the number of deaths from such accidents begins to accelerate sharply in October with the advent of colder weather and the increased use of heating facilities. About 40 percent of the annual loss of life from this cause occurs in the three-month period from December through February. The months of spring—March, April, and May—account for another 25 percent.

The large majority of deaths from fires and explosions occur in private homes and apartments. In 1963-64 the number killed by fires in and about dwelling places represented 85 percent of the total deaths in fires at all sites.

Most victims of fatal fire injuries die in accidents in which only a few lives are lost. However, conflagrations responsible for five or more fatalities are not infrequent. During the period 1958-64, according to information compiled by the Statistical Bureau of the Metropolitan Life Insurance Company, there were at least 336 such catastrophic fires, taking a total of 2,441 lives, mostly in private dwellings and apartments. This toll accounted for less than 5 per cent of all deaths from fires and explosions in the United States during this period.—(Statistical Bulletin, Metropolitan Life Insurance Company)

*All deaths resulting from conflagration and other types of fire, except in transportation, are included regardless of the nature of the injury.

The President's Page . . . .

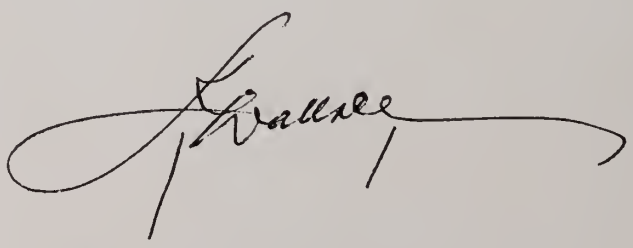
YOUR Committee on Medical Education recently met with representatives from our medical schools for an all-day session devoted to give and take. We believe it was fruitful and rapport between our groups was improved. Below I will attempt to outline to you some of the topics discussed and our conclusions.

It has long been the concern of those of us in private practice that ethics instruction has been almost totally non-existent. Dr. Cox especially in his capacity with the Board of Medical Examiners has been an enthusiastic advocate that there should be correction of this frightful void. Drs. Nelson and Crispell pointed out to us a truism (from my own student days I know this is largely so) that medical students rarely attend any class or lecture unless the roll is called or an examination is in the offing.

Other concerns among the young physician, and of which he has little knowledge: how does one obtain professional liability insurance; what are the customary charges for my area; how do I go about obtaining a connection with Blue Shield; what about licensing and professional fees? The Academy of General Practice has been genuinely disturbed with respect to instruction regarding these and many other questions and subjects. Dr. Palmer told of his experiences regarding lecturing pathological residents and the enthusiasm appertaining. The writer told of an indoctrination course required by one of our chapters mandatory to the privilege of and admission to membership.

The conclusions here by consensus are that the specialities (and this includes the speciality of General Practice) should instruct the residents in his particular group and each medical society component should take advantage of captive audience in the same manner.

Unrelatedly, but quite important, your officers desire very much indeed that the delegates in each district convene with their respective Councilors prior to the meeting of Council in September. This is done in some districts already and has proven very worthwhile. Such action will expedite the business of Council and prove far more effective than the usual twenty-minute caucus during the first session of the House.



K. K. WALLACE, M.D.
President, The Medical Society of Virginia

Editorial . . . .

Look and The Big Lie

THE EUROPEAN DICTATORS of pre-World War II discovered, and used with telling effect, the repeated distortion of fact until the subjected people finally took the falsification at its full value. This was known as The Big Lie. This, along with many other European imports, has been ingrafted on our shores and an outstanding example of this form of propaganda may be found in the March 21 issue of *Look* magazine. The medical trilogy entitled, "The Revolution in Medicine", compares medical care in the United States with socialized medicine in European countries, especially in Britain, to the detriment of American medicine. These distorted stories are followed by an editorial captioned "The Real Issue: Our Right To Be Healthy".

The first article, which deals with American medicine, was prepared by Roland H. Berg and the photographs were taken by Bob Lerner. The opening paragraph tells us "The state of our nation's health is bad. We rank far below less affluent countries. In preventing infant deaths, the U. S. stands tenth; in death from diabetes, fourteenth; from heart disease, thirteenth; in overall deaths, fifth. And in prolonging life we are eighth." The source of these figures are not given, but the comparison of infant deaths by critics of American medicine is usually based on those reported in Sweden. The incidence of maternal and infant mortality in these two countries is hardly a fair comparison. Sweden, a relatively small country, has a homogenous and uniformly well educated people, who follow the rules about pre- and post-natal care and they reap the benefits of these advantages. The United States, on the other hand, has a most heterogeneous people with numerous unassimilated groups. The intellectual level of many of these people does not prompt them to visit a physician until they are well advanced in the first stage of labor. The medical facilities are available, but not utilized. It has been pointed out repeatedly that a horse may be led to water, but he does not necessarily take advantage of his opportunities. The need is for more education, rather than more medicine. In all probability the deaths from diabetes and heart disease result more frequently from obesity in this land of plenty than from the lack of medical facilities. The tensions and competitions of life in the United States are hardly conducive to longevity in the male. The peoples of the world generally concede that American medicine is best—how did *Look* fail to get the word?

The second of these articles deals with Britain's socialized medicine and this is a weirdie. The *Look* European Editor, Leonard Gross, trys to make a case for socialized medicine, but virtually everything he writes about the present system is damning on the face of it. This article is captioned "Crisis in Britain's Health Plan" and the opening paragraph states "Britain's National Health Service is in turmoil. Its professional critics forecast imminent collapse. The Minister of Health scoffs at such

appraisals, but agrees that after almost nineteen years, it's time for a fresh look. In 1965, five out of six general practitioners filed post-dated resignations from the service to reinforce their financial demands. In 1966, junior hospital doctors joined forces to protest over-work, poor pay and miserable conditions. Other physicians drift away to the United States or Commonwealth countries. . . . In a nation where medical care is free to those who want it, more than one million persons now prefer to pay for private health insurance."

This article continues in a lugubrious fashion at considerable length. Several English physicians are quoted who find some virtue in the present system. The chief proponent appears to be Minister of Health, Kenneth Robinson, which is hardly surprising, for he is not entirely objective in this matter. Robinson was especially proud of the new hospitals under construction. Last September he stated "Ten years ago you would have had to go far to find a new hospital under construction in this country. Today they are commonplace." These new hospitals must have sprung up like mushrooms after the late summer rainy season, for none of them appeared to be in evidence last August when the writer visited Britain.

Gross endeavored to close on a high note. The final paragraph concludes "The crisis is real. But it should be kept in perspective. . . . Today, the Health Service is a fact of life by overwhelming choice and the only valid question is how good or bad it will be. Its problems should be seen for what they are—bumps and ruts, not boulders, on a well-marked historical road."

In a further effort to buttress the state of medical affairs in Britain, Lord Snowden (neé Armstrong Jones) was called in to photograph Dr. F. Avery Jones, "a world-famous specialist". Dr. Jones said, "I'm for the Health Service. It's a big step further (sic) in the medical care of the average person. The problems are temporary. We know the answers. We can achieve the answers. I think we shall finish up with quite a superb medical system." This hardly jibes with remarks by Dr. Jones in the preceding paragraph, where he was termed "an angry Englishman and chairman of a medical committee of a sick hospital. Surgical equipment is in short supply; routine pathology equipment has been on request for the last eight years. X-rays languish up to four days enroute to clinicians; one case of open TB was diagnosed two days after the patient has been sent home. Wards hold too many patients; freezing bathrooms stun them." But we are told next that "Dr. Jones and his hospital bridge the contradictions in British medicine today. To him its afflictions are as much cause for hope as for wrath."

The photos by Lord Snowden are equally contradictory. Dr. Jones, a distinguished looking physician, is shown standing by an "unsavory exit" of London's Central Middlesex Hospital with a collection of beat-up trash cans labeled REFUSE on one side of the entrance while a galvanized container with a mis-matched top, captioned SWILL, garnishes the other side. The best looking object in the picture is a late model Bentley which is preparing to take the good doctor away from his sordid surroundings.

A final series of photographs shows the physician passing a gastroscope

while his junior house physician, Michael Clark, who sports a Beatle hairdo, leans on a piece of antiquated plumbing. The final fade-out shows Michael debating the "ethics of emigration with other doctors". But Michael has made his decision. He will remain in England. "The welfare state really appeals to me."

Look then ties it all up neatly with a one-page editorial urging the 90th Congress to broaden our socialization, so we too may enjoy the benefits depicted so graphically by their article on the British National Health Service. The entire symposium has a certain eerie quality that leaves the reader wondering why one of the proof readers didn't kill the whole thing while the editor's back was turned. One more article by *Look* on British medicine may prompt the 90th Congress to rescind Medicare completely.

H.J.W.

VaMPAC: Past and Future

THE RESULTS of the 1966 congressional elections indicate that most Virginians still believe in the free enterprise system. We now have nine conservative congressmen who understand the viewpoint of medicine. The remaining congressman is a moderate and has neither been helped nor opposed by VaMPAC. The one incumbent "Great Society" congressman was replaced and all of the liberal challengers were defeated. What the outcome would have been without VaMPAC is speculative, but we have been described as "the most potent single political force in the Commonwealth of Virginia".

We are fortunate that Virginians cherish their heritage of freedom and are unwilling to trade liberty for the promise of security. This heritage has made it possible for VaMPAC to have a perfect record even though we receive annual contributions from only a small number of dedicated people. In those states where the lessons of history have not been impressed upon the minds of the school children, the job of the state Political Action Committee is much more difficult. If other state PACs are as successful in 1968 as VaMPAC was in 1966, the creeping tide of socialism will be halted. Our goals are to retain our recent gains in Virginia and also to help the less fortunate states improve their position.

Because there will be a presidential election in 1968, our task will be more difficult. Long range analysis of congressional elections shows a liberal swing in presidential years and a conservative swing in the off-year elections. This pendulum effect is due to the fact that the people who only vote in the presidential elections have less knowledge of and less interest in government and are more susceptible to liberal propaganda.

The pendulum swing can be stopped by an intensive two year national education campaign.

Our first objective is to broaden our membership base to include every physician, dentist, and pharmacist in Virginia. Since there is no family membership all doctors' wives are invited to join on an individual basis. A large membership in 1967 will give us the money that will be needed in the early part of the 1968 campaign. One dollar in the early part of a campaign is worth five dollars at the end. The full realization of our membership potential is necessary if VaMPAC is to remain politically effective.

The second part of our job is to select the best candidate in each congressional district. This selection is not difficult when the following criteria are used: 1. Is there a clear difference of opinion between the two candidates in regard to medical and social legislation? 2. Is this a marginal district that could go either way? 3. Does the candidate want and need our support? 4. Are the physicians, dentists, and pharmacists in the district willing to form an active local candidate support committee? 5. Do we have enough money in our candidate support fund to make a significant contribution?

The methods of candidate support are individualized in each district after consultation between the candidate, the campaign manager and the chairman of the local medical committee. All candidates need money to pay for advertisements on television, on radio, and in newspapers. Some of the most effective political work is done by the wives who organize telephone campaigns, coffees, and receptions. These women often volunteer to do much of the secretarial and leg work at the headquarters and at the polls. The physician can function as an effective opinion maker if he is willing to wear a pin on his lapel, to place a sticker on his automobile bumper, to display the candidate's picture in his office, and to discuss the campaign whenever anyone else brings up this subject.

The only money that can be used for candidate support comes from the contributions of the VaMPAC members. The more that you give, the more that we can do. Money that is received from a medical society or any corporation can be used only to defray the cost of political education. In order to function effectively, we need substantial sums of money in both the educational fund and the candidate support fund.

The VaMPAC story must be carried to every member of the healing professions. The officers and the district chairmen of VaMPAC are willing and are prepared to speak to medical societies, hospital staffs, women's auxiliaries, specialty groups and others who wish to learn more about this activity. Requests should be sent to Harry Lee Winters, Executive Secretary, Box 7266, Richmond, Virginia 23221. A better understanding of how you can be politically effective through VaMPAC will lead to more effective political action.

James M. Moss, M.D.

News . . . .

Calendar of Events

Seminar on Anemia—Petersburg General Hospital—May 29, 1967.

Alumni Scientific Assembly—Medical College of Virginia—Richmond—June 2, 1967.

Medicine and Religion Symposium—Sponsored by AMA Department of Medicine and Religion, University of North Carolina School of Medicine and Medical Society of the State of North Carolina—Chapel Hill, North Carolina—June 11-13, 1967.

Ninth Annual AMA Pre-Convention Session on School Health—Chalefonte-Haddon Hall—Atlantic City, New Jersey—June 18, 1967.

Annual Meeting of American Medical Association—Atlantic City, New Jersey—June 18-22, 1967.

Medical Aspects of Sports Conference—Sponsored jointly by The Medical Society of Virginia and Virginia High School League—Virginia Polytechnic Institute, Blacksburg—July 23, 1967.

Eighth Annual Cardiovascular Symposium—Sponsored by Tidewater Heart Association—Golden Triangle Motor Hotel—Norfolk—September 15-16, 1967.

Annual Meeting of The Medical Society of Virginia—Marriott Twin Bridges Motor Hotel—Arlington—October 19-22, 1967.

Clinical Convention of American Medical Association—Houston, Texas—November 26-29, 1967.

New Members.

The following new members were received into membership in The Medical Society of Virginia during the month of March:

Murray White Ballenger, M.D., Alexandria
Hervey Peery Brittain, M.D., Tazewell
Dan Feriozi, M.D., Arlington
Bernard William Freund, Jr., M.D., McLean
William T. Huff, Jr., M.D., Lynchburg
Ralph Yunsoo Kahn, M.D., Rocky Mount
Seymour Herbert Levitt, M.D., Richmond
Frances Anna Maltese, M.D., Richmond
Sava Miodrag Nedelcovych, M.D., Falls Church
Jose Juan Terz, M.D., Richmond
Shalom Vishniavsky, M.D., Norfolk
Donald Richard Williams, M.D., Salem
Wolfgang Arthur Wirth, M.D., Roanoke

Revision of Constitution and By-Laws.

A Special Committee of The Medical Society of Virginia is conducting a thorough study and review of the Society's Constitution and By-Laws for the purpose of determing whether extensive revisions are in order.

The study, undertaken at the request of Council, is not confined to any particular area of interest, although districting and ethics appear well up on the list. Some concern has been expressed over the fact that physician population of the ten congres-

sional districts is far from equal, and representation in Council is unequal as a result. District boundary lines are said to cut across medical practice lines, and some discontent has been noted.

As far as ethics are concerned, present By-Laws are said to be vague and awkward regarding discipline. It has been pointed out that a member can be convicted of a felony, lose his license to practice, and still not be subject to being expelled from the Society until three-fourths of the House of Delegates directs the expulsion.

The Special Committee is anxious to learn what the members of the Society think of By-Laws and what changes, if any, are desired. Your thoughts can be sent to the State Office in Richmond, or directly to Dr. John A. Martin, 2037 Crystal Spring Avenue, S. W., Roanoke.

Virginia Academy of General Practice.

At the annual meeting of the Academy held at The Homestead, Hot Springs, March 2-5, Dr. J. Powell Anderson, Waynesboro, was installed as president, succeeding Dr. Robert Cassidy of Culpeper. Dr. Howard I. Kruger, Norfolk, was named president-elect and Dr. A. Epes Harris, Blackstone, vice-president. Dr. J. W. Carney, Newport News, continues as secretary, and Dr. F. P. Morrissette, Midlothian, as treasurer.

Wise County Medical Society.

Dr. Joseph T. Phillips, Norton, has been elected president of this Society, with Dr. Fred Maphis, Wise, Dr. William Matthews, St. Paul, and Dr. A. Haskell Bond, Norton, vice-presidents and Dr. Joe Straughan, Wise, secretary-treasurer.

Dr. Hatfield Honored.

Dr. C. C. Hatfield, Saltville, has been presented the Silver Beaver Award by the Sequoyah Council of Boy Scouts of America. He has over thirty years of service in scouting, has served as scoutmaster, troop committeeman, and troop committee chairman.

Dr. Edward S. White,

Bloxom, has been elected a member of The Bank of Virginia's Hallwood Board.

Hospital Staff.

Dr. J. L. Mathews, Haymarket, has been elected president of the medical staff of Prince William Hospital. Dr. Claude Hylton, Manassas, is vice president and Dr. George Seitz, Manassas, secretary-treasurer.

Late Doctor Price Honored.

The medical staff of the R. J. Reynolds-Patrick County Memorial Hospital recently presented the hospital with a bronze plaque in memory of the late Dr. Henkel Moser Price. He served the hospital as radiologist from 1962 until his death this past November.

Hospital Board of Directors.

Dr. Reynoldson D. Butterworth has been elected president of the board of directors of Johnston-Willis Hospital, Richmond, succeeding Dr. Donald S. Daniel. Dr. Thomas N. P. Johns, is vice president, and Dr. Daniel D. Talley III secretary-treasurer. Dr. Frank S. Johns was elected honorary chairman of the board; Dr. Donald S. Daniel, honorary president, and Dr. J. Morrison Hutcheson, senior vice president.

Dr. Francis R. Payne, Jr.,

Has been reappointed to the Petersburg Electoral Board.

Another Diploma!

Dr. Ashby Coleman, Altavista, has a new diploma in his office—a Ski School Diploma,

received upon graduation from a class at a Canadian resort in the Laurentians.

SKF Foreign Fellowships.

Richard L. Guerrant, a junior at the School of Medicine, University of Virginia, has been awarded a fellowship by Smith Kline & French which will permit him to assist for 12 weeks this summer at a mission hospital in the Republic of the Congo.

James H. Hall, son of Dr. and Mrs. Snowden C. Hall, Danville, has been awarded a fellowship which will permit him to assist for 18 weeks this summer and fall at a hospital and clinics in the country at Malawi, Africa. Mr. Hall is a junior in medicine at Duke University.

These fellowships are among thirty-one selected to receive the Smith Kline & French Foreign Fellowships from the Association of American Medical Colleges.

Paper Clothing Inflammable.

A Public Health Service official has cautioned people who wear paper clothing that they risk burning themselves if they wear it near an open flame after it has been laundered, dry cleaned or worn in a soaking rain. This new type of garment should be discarded once it becomes soiled. The manufacturers themselves acknowledge that many of these paper garments lose whatever flame retardant finish they have after washing.

Position Available.

Maternity and Infant Care Project Director. Male or female. Eligible for license to practice in Virginia; Board Certified in Obstetrics and Gynecology or in Pediatrics. Stimulating position in large City Health Department with excellent fringe benefits. Salary range $15,000 to $19,600 annually. Employment in advanced steps, based upon qualifications. For further information, contact Director of Public Health, Richmond City Health Department, 500 North 10th Street, Richmond, Virginia. (*Adv.*)

Anesthesiologist Wanted.

Qualified anesthesiologist to head department in 200-bed general hospital in Virginia. Income in excess of $30,000.00, largely on fee-for-service basis. Contact #130, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obituaries . . . .

Dr. Alexander Merle Showalter,

Christiansburg, died March 25th, at the age of eighty-seven. He received his medical degree from the University of Virginia in 1907 and had practiced in Christiansburg for fifty-seven years. Dr. Showalter built the Altamont Hospital in Cambria in 1912 and its successor, the New Altamont Hospital, was opened in Christiansburg ten years later. He was president and general manager of the hospital. In 1965 plans were made to merge the New Altamont Hospital with a proposed community hospital to be named the A. M. Showalter Memorial Hospital. Dr. Showalter was a Mason and served as grand master in Virginia in 1931. He was the Most Worshipful representative of Virginia to the Bi-Centennial of the Grand Lodge of Scotland in 1929. He was a charter member and past president of the Rotary Club. He had been selected as Man of the Year in Montgomery County on several oc-

casions. Dr. Showalter had been an active member of The Medical Society of Virginia for fifty-eight years.

His wife, a son, a daughter and a stepson survive him. His son is Dr. J. T. Showalter, also of Christiansburg.

Dr. John Eugene Wine,

Harrisonburg, died March 2nd. He was seventy-seven years of age and a graduate of the Medical College of Virginia in 1917. Upon his discharge from the Army during World War I, Dr. Wine located in Harrisonburg in 1919. He was a past president of the Rockingham County Medical Society and past president of the medical staff of the Rockingham Memorial Hospital. Dr. Wine has been a member of The Medical Society of Virginia for forty years.

His wife, a foster-daughter, and a son, Dr. Jean F. Wine, survive him.

Dr. Harry Brick,

Richmond, died March 12th. He was fifty-seven years of age and a graduate of the Medical School in Leipzig, Germany, in 1936. Dr. Brick was a veteran of World War II and retired from the Army Reserves with the rank of Colonel. He had been staff psychiatrist at the Virginia State Penitentiary for twenty years. Dr. Brick was a member of The Medical Society of Virginia, having joined in 1940.

His wife, a sister and three brothers survive him.

Dr. Albert Joseph Paquin, Jr.,

Charlottesville, died March 13, at the age of forty-six. He received his medical degree from the St. Louis University in 1944. Dr. Paquin came to the University of Virginia in 1959 as professor of urology and chairman of the Department of Urology. He was considered the most promising academic urologist in the United States and the University's Department of Urology was recognized throughout the nation for its accomplishments based on Dr. Paquin's leadership. His interests were the urological problems of childhood and he was noted for the development of corrective surgery for defects in the urinary tract. Dr. Paquin had been a member of The Medical Society of Virginia since 1959.

His mother survives him.

Dr. Mulholland

Henry Bearden Mulholland, a beloved and respected member of the Albemarle County Medical Society, died on October 30, 1966, following a brief acute illness. An Emeritus Professor of Internal Medicine at the University of Virginia, he had remained active in private practice and was a valued consultant at the University of Virginia Medical Center.

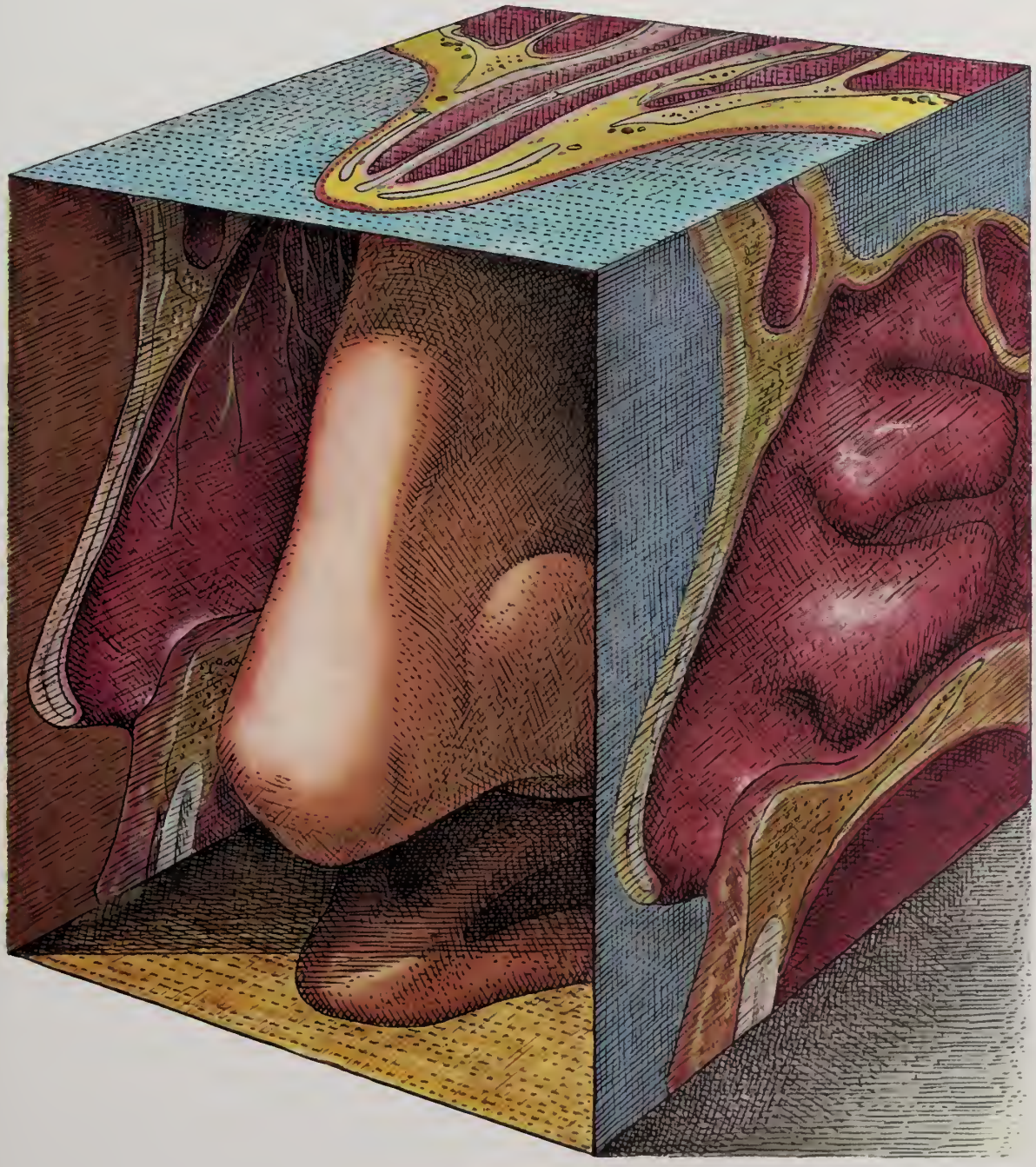
Dr. Mulholland was born on January 9, 1892, in Knoxville, Tennessee. Most of his early education was acquired in Canada and for three years he attended the University of Toronto. He was graduated from the University of Virginia Medical School in 1920 and became a member of the faculty in 1922. With the exception of a year's study in Europe and another period of research in Boston, he based his entire career at the University of Virginia, holding a professorship in Internal Medicine from 1927 until his retirement in 1962. From 1943 to 1949 he served as Acting Chairman of the Department of Internal Medicine. From 1942 to 1958 he was Assistant Dean of the School of Medicine and most active and influential in the School's expanding national role in medical education.

Dr. Mulholland was an internationally prominent scientist and educator. An expert in the field of Internal Medicine, he maintained a special interest in metabolic diseases and particularly in diabetes, where his contributions to improvement in treatment obtained wide recognition. In 1955 he was honored by the presidency of the American Diabetic Association and received the Banting Award, the Association's highest recognition for scientific achievement. All aspects and levels of medical education, undergraduate and postgraduate, received impetus and direction from his sustained interest and participation. As a didactic and clinical teacher, Dr. Mulholland was practical, stimulating and unforgettable. His acute sense of proportion allowed him to pin-point and emphasize the critical elements in any medical problem. He was extraordinarily familiar with the natural

spring 1967

DORSEY Season

A journal within a journal published quarterly in the interests of better medicine by Dorsey Laboratories, a division of The Wander Company, Lincoln, Nebraska. Address communications to Raymond C. Pogge, M.D., Director of Medicine.



this issue: the ubiquitous world of summer allergies

the ubiquitous world of summer allergies

Donald L. Unger, M.D. • Clinical Assistant Professor, Department of Medicine (Allergy), Stritch School of Medicine (Loyola).

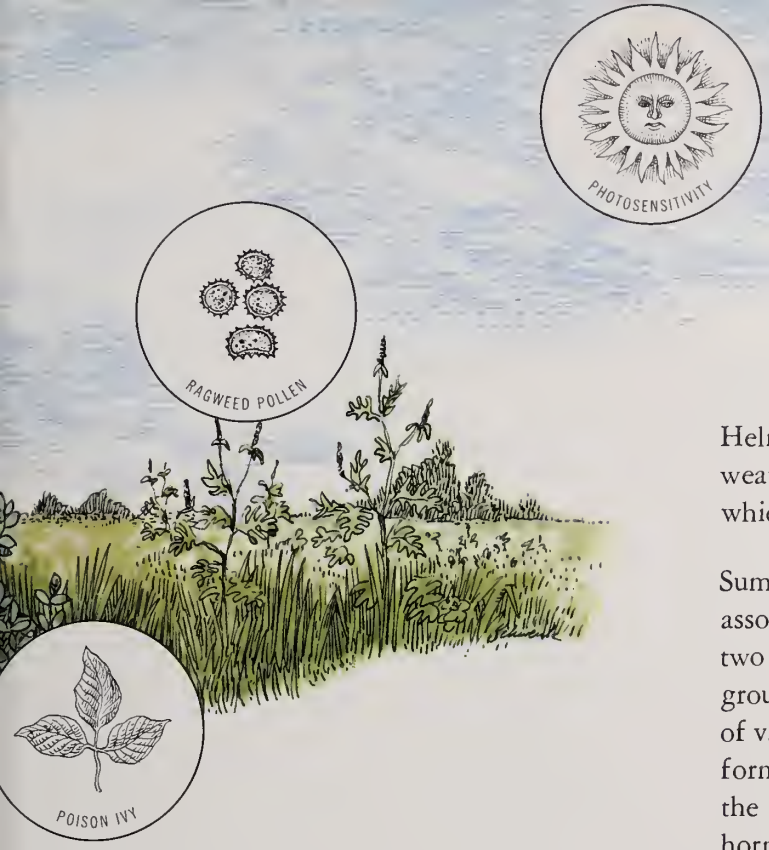
In the Spring a young man's fancy lightly turns to thoughts of—allergies. This is at least true of the 10% of the population who have hay fever and the 4% who have asthma.[1] The snow melts, the trees blossom and the noses run. Patients who were fine all winter may not be enthralled by the sight of the first robin or the blossoming of a crocus, for their appearances may precede the "sneezin' season."

Allergies in general can be divided into winter allergies and summer allergies. In the winter the main problems are inside the house: e.g. dogs, cats, dust and feathers. Houses in the northern half of the country become so dry that it becomes essential to add humidity to the home; this is a far cry from the damp summer months with the moldy basements and need for dehumidifiers.

Early in April trees begin to pollinate, with each tree having about a two week period of pollination. A particular patient may be sensitive to only one tree and thus have his hay fever for such a short time that he thinks he has a cold.[2] The entire tree season starts about April 1 and ends about Memorial Day, although all hay fever seasons are blurred and prolonged in the southern part of the country. Tree pollen is usually very heavy and a person may well have most of his exposure from those trees immediately surrounding his home.

Grasses pollinate from about May 15 until July 4, and cause "rose fever." Grass pollens are somewhat lighter and more buoyant than tree pollens, and are much more ubiquitous. While there are several varieties of grasses in the United States, they are so closely related antigenically that a person sensitive to one is generally sensitive to them all.[3] Thus, while the tree season is really several small seasons intertwined, the grass season will usually result in symptoms for a more prolonged period. Obviously, a grass-sensitive patient will have trouble only when grass is pollinating—he will have to think of another excuse not to mow the lawn after July 4.

Ragweed is the "Big Daddy" of them all in the eastern two-thirds of the country. Pollination is generally from mid-August until the end of September, with the predicted lower counts and longer seasons



in the southern part of the country. Ragweed is a very light pollen which may be windborne for hundreds of miles. An interesting study was made in New York City, in which 90% or more of the ragweed plants were destroyed in three of the five boroughs; pollen counts done during the season were virtually identical in all five.[4]

Ragweed is, of course, the most common cause of hay fever and is associated with an incredible loss of man hours from work each year. Many is the patient who travels to areas where the pollen count is low, just to avoid having symptoms. There is no ragweed anywhere in the world except the United States and portions of Canada and Mexico.

While molds are present through the year, the most important ones predominate from April until November. An old wives' tale has ragweed ending with the first frost, when actually it ends a good month earlier. It is Alternaria—the kingpin of the molds—that meets a sudden demise with the first frost. Alternaria-sensitive patients are in their glory when there is snow on the ground, and might be ideally suited to man the radar stations in Alaska. In September and October, Alternaria counts are at their highest, perhaps associated with the burning of leaves. Other molds such as Hormodendrum and Helminthosporium are associated with the warmer weather, as opposed to Penicillium and Aspergillus which are household molds.

Summer also means the return of our much maligned associates—bugs. Insects cause allergic symptoms by two methods: the bite or sting of the Hymenoptera group, and the inhalation of particles of the bodies of various insects. Wasp stings are the oldest known form of allergy, as they caused the death of one of the pharaohs in ancient Egypt.[5] Bees, wasps and hornets account for many deaths in this country, and those sensitive to them should carry special treatment kits at all times; a few minutes delay in the administration of epinephrine to such a patient, might be the difference between life and death. Inhalation of particles of insects may cause sneezing and wheezing in a susceptible individual.[6] Both of these forms of insect allergy may be benefitted by hyposensitization.

The insect recognizes no professional bounds. He is as apt to bite the physician as the patient. So this season, beware of bugs. And beware, too, of poison ivy. That pleasant stroll through the woods and underbrush with the Boy Scouts might turn into a

(Concluded on following page)

to relieve summer allergies

Triaminic®

Each timed-release tablet contains phenylpropanolamine hydrochloride 50 mg., pheniramine maleate 25 mg. and pyrilamine maleate 25 mg.

It's a comforting thing to know

For product information see following page

(Advertisement)

nightmare for the botanically uninitiated in the causes of rhus dermatitis (poison ivy, poison oak and poison sumac). Although you may have been careful, your dog may not have noted that it wasn't clover he jumped through, but poison ivy. His return to your side may give you the rhus dermatitis that you so carefully avoided. That heavenly campfire may be emitting particles of rhus oil to produce an airborne contact dermatitis of the exposed areas of the body.

Another fascinating, but rather infrequent type of summer allergy is physical allergy. Some people sneeze on exposure to sunlight, while others break out in rashes, usually on the exposed parts of the body. These rashes may well follow the administration of various photosensitizing drugs, e.g. demethylchlortetracycline.[7] Another form of physical allergy and one that may be lethal in the summer, is cold allergy. Yes, I mean cold allergy, not heat allergy. The cool dip on a hot day with its consequent sudden chilling of the body, may be the coup de grace for a cold sensitive patient.[8] It is customary to write "heart attack" on the death certificate, even though the victim may have been an 18-year-old boy who looks like a Greek god.

Lest the reader be depressed by this saga of afflictions associated with the warmer months, perhaps he should remember that it is also a time for swimming, baseball, lying in the sun and taking that long-planned vacation. So let's all join in a chorus of "In the Good Old Summertime," as we sneeze, wheeze and scratch. Be careful of your suntan lotion, however; it may cause you a contact dermatitis.

References 1. Unger, L.: Bronchial asthma. Charles C. Thomas Co. p. 47, 1946. 2. Samter, M.: Immunological diseases. Little, Brown and Co. p. 513, 1965. 3. Wodehouse, R. P.: Antigenic analysis by gel diffusions: 2. Grass pollen. Int. Arch. Allerg. **6**:65, 1955. 4. Cohart, E. M., and Kandle, R. P.: The Effects of a ragweed control program on ragweed pollen counts, J. Allergy **30**:287, 1959. 5. Woddell, L. S.: Egyptian civilization: Its origin and real chronology and Sumerian origin of Egyptian hieroglyphics. London: Luzak & Co. 1930. 6. Parlato, S. J.: The sandfly (Caddis fly) as an exciting cause of allergic coryza and asthma: II. Its relative frequency. J. Allergy **1**:307, 1930. 7. Ozere, R. L.: Demethylchlortetracycline photosensitivity. Canad. M. A. J. **85**:1199, 1961. 8. Horton, B. T., Braun, G. E., and Roth, G. M.: Hypersensitiveness to colds, JAMA **107**:1263, 1936.

How can he be a sport with a runny nose?

For summer allergies, summer colds, or nasal congestion due to almost any cause, you prescribe quick r-e-l-i-e-f with Triaminic. It's ideal for summer allergies:

1. Acts in 15-30 minutes due to decongestant.
2. Follows up with balanced dual antihistamines.
3. Up to 24-hour 'round the clock relief when dosed one tablet at morning, mid-afternoon and evening.

Summer time is sport time and who can be a sport with a runny nose?

provide patient comfort

Triaminic® relieves summer allergies

Each timed-release tablet contains:

Phenylpropanolamine hydrochloride	50 mg.
Pheniramine maleate	25 mg.
Pyrilamine maleate	25 mg.

Side effects: Occasional drowsiness, blurred vision, cardiac palpitation, flushing, dizziness, nervousness or gastrointestinal upsets.

Precautions: The patient should be advised not to drive a car or operate dangerous machinery if drowsiness occurs. Use with caution in patients with hypertension, heart disease, diabetes or thyrotoxicosis.

(Advertisement)

history of disease and forceful in pointing out the lessons that its many variations should teach.

An enthusiastic and industrious dedication to medical science, teaching and practice did not divert Dr. Mulholland's attention from the broad obligations of medicine to society. His wide perspective, combined with exceptional intellectual energy and talent, led him to many local, state and national positions of leadership. A former president of the Albemarle County Medical Society, he was chairman of the Virginia Section of the American College of Physicians, and a councilor and president of The Medical Society of Virginia. In 1946 he founded the Virginia Council on Health and Medical Care, a statewide pioneer medical service organization that has been widely acclaimed and imitated throughout the United States. As its first and continuing president, he was the moving force in its initiation, development and success. Through the Council, Dr. Mulholland was responsible for securing legislation in the Virginia Assembly that acquired Hill-Burton funds for hospital building programs throughout Virginia. He became a member of the State Advisory Hospital Council and of the original Board of Directors of Blue Cross-Blue Shield. In many years, there are no aspects of medical service in Virginia that have not benefited directly and indirectly from his attention and guidance.

On the national scene, Dr. Mulholland served in the House of Delegates of the American Medical Association and became an active leader in the social study programs of American medicine. He was chairman of the American Medical Association's Committee on Aging, vice-chairman of the Council on Medical Service, and a member of the Council on Rural Health. In addition to membership on other national committees, he held key positions on liaison groups that inter-related the educational policies of the A.M.A. and the Association of American Medical Colleges. Dr. Mulholland was also a consultant for the United States Public Health Service, serving as a member of the National Advisory Committee on Chronic Disease and Aging, on the Council on Arthritis and Metabolic Disease of the National Institute of Health, and on the Advisory Committee of the National Health Survey. In 1951 he was a member of the United States Delegation to the World Health Organization at its meeting in Geneva, Switzerland.

From his high stature in American medicine and his outstanding contributions, much well deserved recognition came to Dr. Mulholland. In a long medical career, he was the recipient of numerous academic and professional honors, citations and awards. Before his retirement, the University established the Henry B. Mulholland Chair of Internal Medicine, with Professor Mulholland as its first incumbent. In 1962, at the traditional Founder's Day exercises at the University, he received the annual Thomas Jefferson Award—made to a member of the Faculty or Administration of the University of Virginia who has brought the greatest honor to the institution through his work. Dr. Mulholland retired as Professor of Internal Medicine in 1962, but he continued to receive evidences of the great esteem in which he was held. In January 1966 he was made a Master of the American College of Physicians, one of three senior physicians chosen for this honor from a membership of 13,000 American diagnosticians.

Hank Mulholland's distinguished medical career, his many wide achievements and contributions won him the respect and admiration of his colleagues everywhere. However, it is for his strong human qualities that he will be chiefly remembered. The great impact of his personality, its individuality and uniqueness, made a lasting impression on everyone. A courtly and modest gentleman, his genuine friendliness and warmth were unmistakable. He was alert, serious, straight-forward, and closely attentive to any details at hand, but overall considerations were always paramount and it was seldom that he did not introduce new perspective or an oblique, decorous humor to relieve a difficult situation. It was obvious that he had quick access to basic principles of thinking and acting in the conduct of his own life and in his application of medical science and art to the lives of his patients. His great interest was in people, and his singular devotion to medicine found him working to the end of his days for human betterment.

Over two generations of medical students, interns, residents and fellows remember with gratitude and affection Dr. Mulholland's extraordinary portrait as a teacher, counselor and friend. They learned at first hand what he was like and how he worked in the always vital relationships of medicine. In spite of his complexity and versatility, he was not basically hard to know. He was a natural stranger to aloofness, hypocrisy and distortion. His high standards of integrity and preciseness did not permit him to be immediately tolerant of ignorance or inaccuracy in those expected to know better and do better. Convinced that we learn best from mistakes, his method of teaching with Socratic, with sharp raillery that could be a discomforting but provocative stimulus to thinking more precisely on the subject. Then a gentle, kindly banter would ensue, clearing the tension and fixing the message. He never held a grudge or gave up on a student's potentiality to improve and to grow into his responsibilities as a physician.

Throughout the years it would be hard to overestimate the support that Dr. Mulholland gave to his practicing colleagues. For four decades he was a

highly sought after consultant who brought scientific perspective and wise medical advice for the complex diagnostic and treatment problems presented to him. For many physicians in and out of Virginia, he was a "court of last resort"; a thorough and reassuring medical judge for their patients and friends. In spite of his crowded activities and obligations in medicine, he was busily engaged in seeing patients all of his life. Many persons came to see him of their own accord: Some from afar, other from his host of friends within the community. These are the people, next to his own devoted family, who will remember him with the greatest love and esteem. He was first of all a personal doctor, a wise and compassionate physician whose deep concern for his patients inspired them with the greatest confidence. They felt assured that their needs would come first, that everything would be thought of, and that nothing would be left undone that could be done.

Hank Mulholland's basic contributions to medicine and society place him high in the annals of medicine and in the hearts of our people. It is not really possible to feel that he has felt our community, and indeed it is the immortality of a great man that his image as well as the fruits of his labors survive to encourage and support us.

Be it resolved: That the Albemarle County Medical Society enter in its minutes these remembrances of Dr. Mulholland, and convey its sympathy to his family.

Andrew D. Hart, M.D.
Thomas H. Hunter
Byrd S. Leavell, M.D.

Dr. Webb.

Dr. John Quincy Adams Webb, Norfolk, died on February 13, 1967, after a long illness. A native of Norfolk, he was a graduate of the Leonard School of Medicine of Shaw University in 1913. Dr. Webb practiced in St. Albans, West Virginia, for two years and then spent the remainder of his life in Norfolk.

Dr. Webb was an associate of the late Dr. Wilbur A. Drake in the founding of Tidewater Hospital. This hospital merged later with Norfolk Maternity Ward and the combined facility was named Norfolk Community Hospital. As Chief of Staff and Chief of Surgery, Dr. Webb was the outstanding influence in the growth of this institution to its present size and capability. His skill and leadership unquestionably made hospital facilities available to a large segment of our population where a void existed. He continued his strenuous endeavors in this direction until 1963 when his health forced a slowdown. Even a few days before his death he was expressing his concern for the growth and welfare of the hospital.

Throughout, he was an unselfish supporter of civic endeavors to aid our community.

He was a member of the First Baptist Church, The Medical Society of Virginia, the National Medical Association, the Old Dominion Medical Society, the Norfolk County Medical Society, the Norfolk Medical Society and Phi Beta Sigma fraternity.

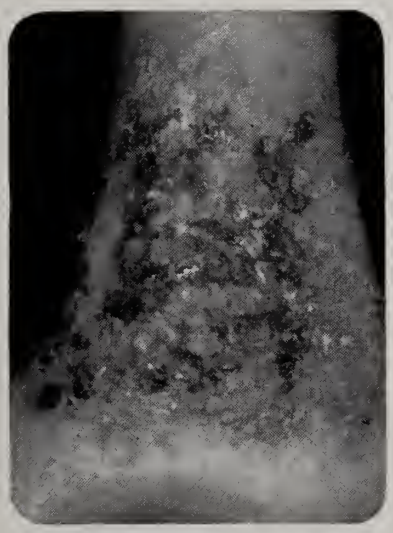
Dr. Webb is survived by his wife, one son and two grandchildren.

Therefore be it resolved that the Norfolk County Medical Society extend its sympathy to the bereaved wife and family.

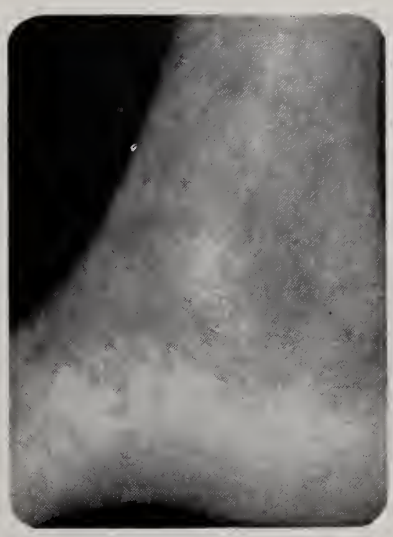
Be it further resolved that this resolution become a part of the minutes of the Norfolk County Medical Society and a copy be sent to the family and the Virginia Medical Monthly.

Oswald W. Hoffler, M.D.
James O. Willie, M.D.
Eric G. Mitchell, M.D.

Eczema of many years... controlled in two weeks



Before treatment



After treatment —
with ARISTOCORT Topical Ointment 0.1% for two weeks

ARISTOCORT® Triamcinolone Acetonide Topicals have proved exceptionally effective in the control of various forms of eczema: allergic, atopic, nummular, psoriatic, and mycotic.

In most cases responsive to topical ARISTOCORT, the 0.1% concentration is sufficiently potent. The 0.5% concentration provides enhanced topical activity for patients requiring additional potency for proper relief.

Administration and Dosage: Apply sparingly to the affected area 3 or 4 times daily. Some cases of psoriasis may be more effectively treated if the 0.1% Cream or Ointment is applied under an occlusive dressing.

Contraindications: Tuberculosis of the skin, herpes simplex, chicken pox and vaccinia.

Precautions and Side Effects: Do not use in the eyes or in the ear (if drum is perforated). A few individuals react unfavorably under certain conditions. If side effects are encountered, the drug should be discontinued and appropriate measures taken. Use on infected areas should be attended with caution and observation, bearing in mind the potential spreading of infection and the advisability of discontinuing therapy and/or initiating antibacterial measures. Generalized dermatological conditions may require systemic corticosteroid therapy. Steroid therapy, although responsible for remissions of dermatoses, especially of allergic origin cannot be expected to prevent recurrence. The use over extensive body areas, with or without occlusive nonpermeable dressings, may result in systemic absorption. Appropriate precautions should be taken. When occlusive nonpermeable dressings are used, miliaria, folliculitis and pyodermas will sometimes develop. Localized atrophy and striae have been reported with the use of steroids by the occlusive technique. When occlusive nonpermeable dressings are used, the physician should be aware of the hazards of suffocation and flammability. The safety of use on pregnant patients has not been firmly established. Thus, do not use in large amounts or for long periods of time on pregnant patients.

Available in 5 Gm. and 15 Gm. tubes and ½ lb. jars.

PHOTOGRAPHS COURTESY OF M. M. NIERMAN, M.D.

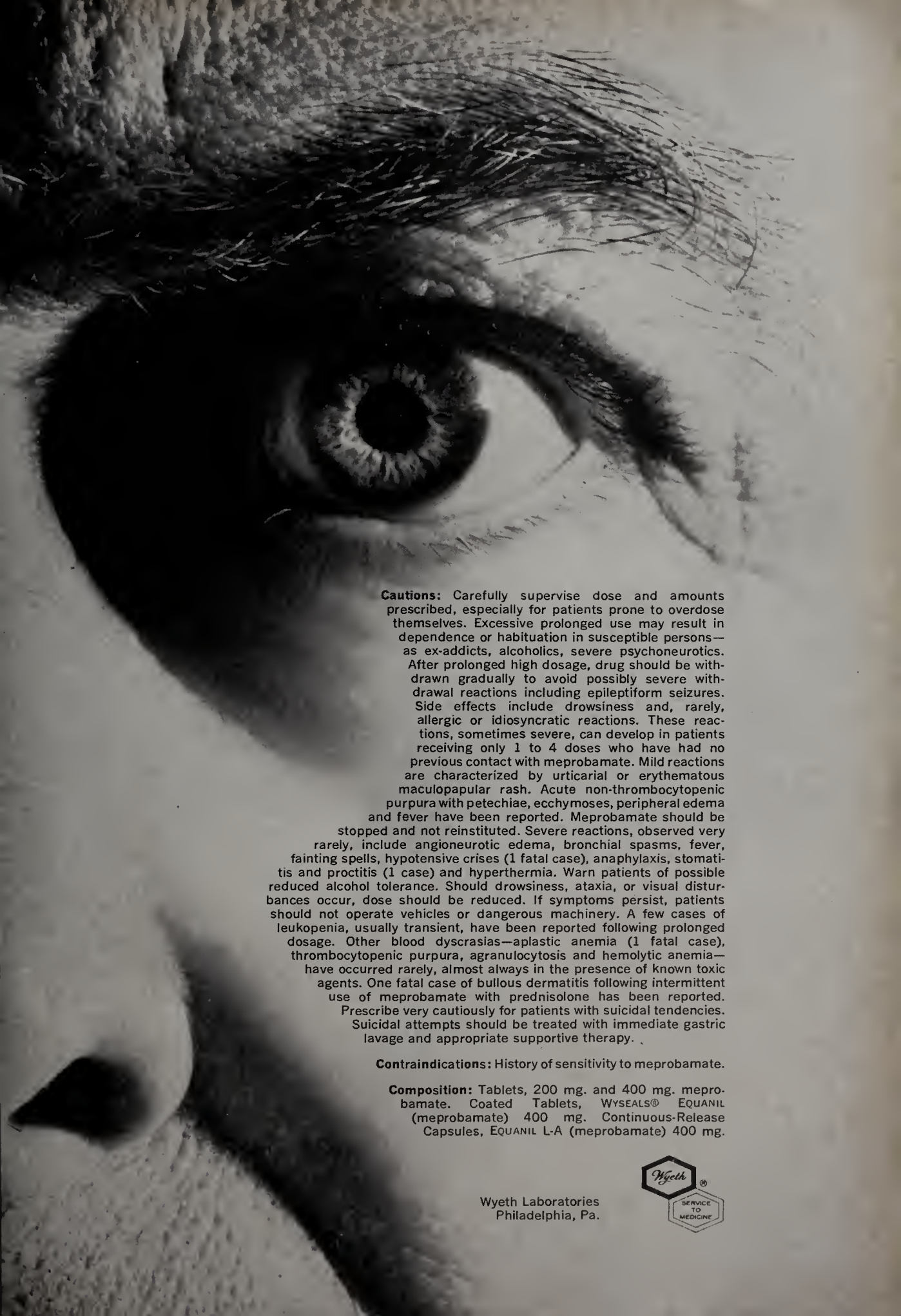
Aristocort® Topical Ointment 0.1% and Cream 0.1%, 0.5%
Triamcinolone Acetonide
Also available in foam form.

Lederle LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

406-6

3 a.m.

Sleep-interfering anxiety and tension can usually be relieved with EQUANIL®
(meprobamate) Wyeth



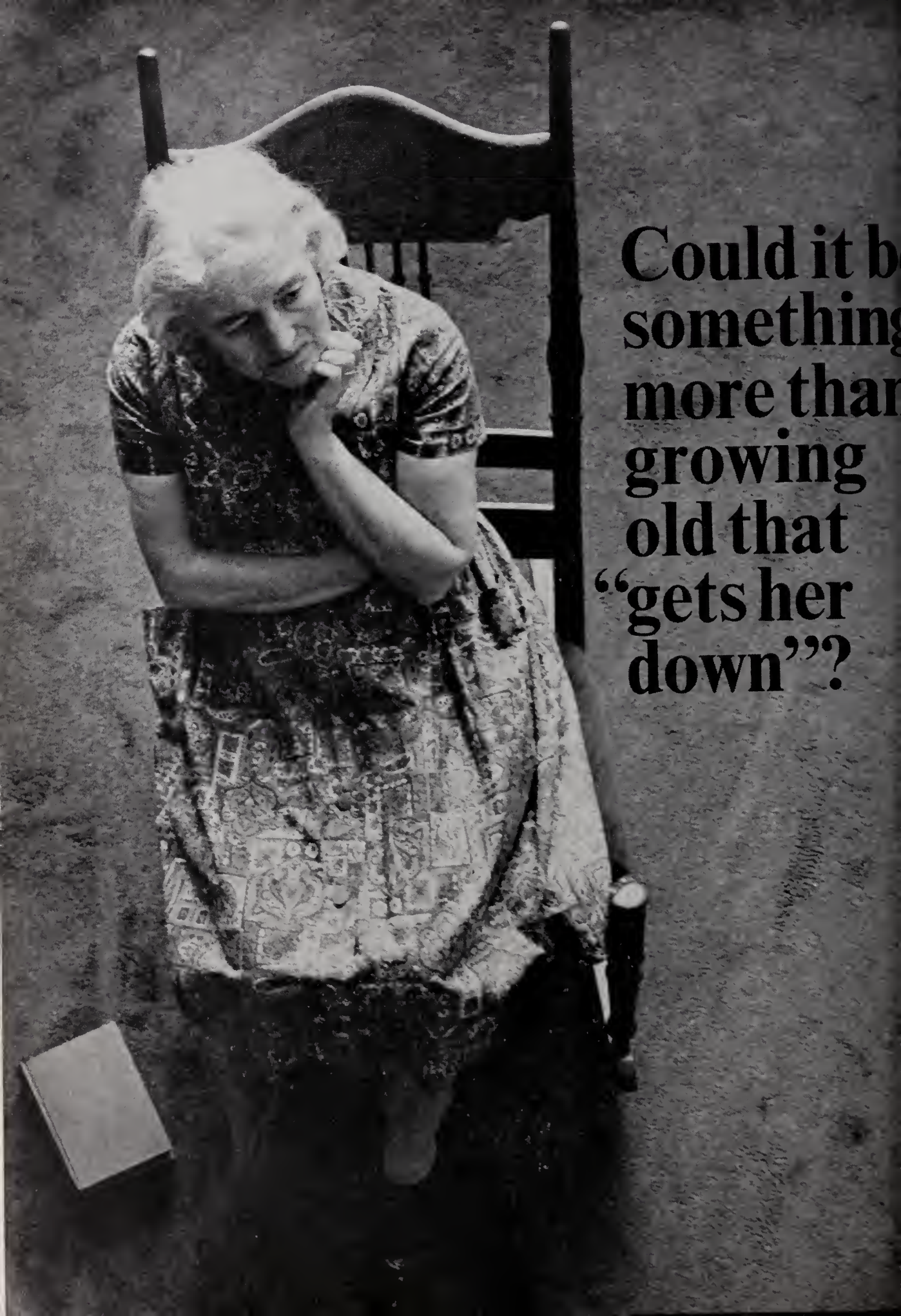
Cautions: Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use may result in dependence or habituation in susceptible persons—as ex-addicts, alcoholics, severe psychoneurotics. After prolonged high dosage, drug should be withdrawn gradually to avoid possibly severe withdrawal reactions including epileptiform seizures. Side effects include drowsiness and, rarely, allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute non-thrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. Meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Warn patients of possible reduced alcohol tolerance. Should drowsiness, ataxia, or visual disturbances occur, dose should be reduced. If symptoms persist, patients should not operate vehicles or dangerous machinery. A few cases of leukopenia, usually transient, have been reported following prolonged dosage. Other blood dyscrasias—aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia—have occurred rarely, almost always in the presence of known toxic agents. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. Prescribe very cautiously for patients with suicidal tendencies. Suicidal attempts should be treated with immediate gastric lavage and appropriate supportive therapy.

Contraindications: History of sensitivity to meprobamate.

Composition: Tablets, 200 mg. and 400 mg. meprobamate. Coated Tablets, WYSEALS® EQUANIL (meprobamate) 400 mg. Continuous-Release Capsules, EQUANIL L-A (meprobamate) 400 mg.

Wyeth Laboratories
Philadelphia, Pa.

Wyeth ®
SERVICE TO MEDICINE


Could it b
something
more than
growing
old that
"gets her
down"?

Mild mood depression, poor appetite, little interest in the present or future. Does this picture mean that she's giving in to functional fatigue?

When functional fatigue is part of her problem, Alertonic can help counteract accompanying apathy and inertia. It helps lift mood, stimulate appetite, and establish new interest in daily life.

Pleasant-tasting Alertonic combines pipradrol hydrochloride—a gentle cerebral stimulant—with an excellent vitamin and mineral formula, in a satisfying 15% alcohol vehicle.

Especially in the aging patient, nothing fosters confidence and a sense of well-being better than your own personal warmth, understanding, and encouragement. Between visits, however, your prescription for Alertonic can help keep your patient from giving in to functional fatigue.

Adequate dosage is important: Prescribe Alertonic—one tablespoonful t.i.d., 30 minutes before meals ...tastes best chilled.

And for your patient's sake, prescribe Alertonic in the convenient, economical one-pint bottle.

Available only on prescription

Alertonic®

Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%, pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B_1) (10 MDR*), 10 mg.; riboflavin (vitamin B_2) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B_6), 1 mg.; niacinamide (5 MDR), 50 mg.; choline,† 100 mg.; inositol,† 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

*Multiple of adult Minimum Daily Requirement supplied.
†The need for these substances in human nutrition has not been established.

Indications: 1. Functional fatigue such as that often associated with: a depressing experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

Contraindications: As with other drugs with CNS stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive compulsive states.

Side effects: Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

Dosage: Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

Merrell

THE WM. S. MERRELL COMPANY
Division of Richardson-Merrell Inc.
Cincinnati, Ohio 45215

7-8378

DOCTORS:

ADMINISTRATORS:

Terrace Hill Nursing Home Is a Fully Accredited Medicare Approved Extended Care Facility

Within 9 minutes from any local hospital

- **Post Hospital Nursing Care**
- **Round the Clock Skilled Care**
- **Sprinkler System, Fire Protected**
- **R.N. Supervision** • **Activities**
- **Trained Dietitian** • **Male Orderlies**
- **Air-Conditioned Rooms**

View Showing Park-like Grounds of Terrace Hill Nursing Home

In compliance with the Civil Rights Act of 1964

Patients under care of their own Physicians

Neal L. Maslan, M.P.H.

Administrator

State and City Health Depts. Approved

"Understanding Care"

Member: + Va. Nursing Home and American Nursing Home Assns.

VIRGINIA NURSING HOME ASSOCIATION VNHA ORGANIZED 1953

Member

TERRACE HILL NURSING HOME, INC.

2112 MONTEIRO AVENUE RICHMOND, VIRGINIA 23222 643-2777

TERRACE HILL NURSING HOME, INC.

ST. ELIZABETH'S HOSPITAL

617 West Grace Street

Richmond, Virginia

Established 1912

Guy W. Horsley, M.D.
General Surgery and Gynecology

James T. Gianoulis, M.D.
General Surgery and Gynecology

James W. Pancoast, M.D.
General Surgery and Gynecology

Leroy Smith, M.D.
Plastic Surgery

Hunter B. Frischkorn, Jr.
Radiology

Austin I. Dodson, Jr., M.D.
Urology

J. Edward Hill, M.D.
Urology

William T. Stuart, M.D.
Urology

Levi W. Hulley, M.D.
General Medicine

Clarry C. Trice, M.D.
General Medicine

Douglas G. Chapman, M.D.
Internal Medicine

George W. Reese, Jr., M.D.
Internal Medicine

Elmer S. Robertson, M.D.
Internal Medicine

Charles A. Pollock, Jr., M.D.
Internal Medicine

William R. Draper, *Administrator*

For the Care of Surgical, Gynecological, Urological and Medical Cases.

"Take a laxative" is a harsh sentence

Although there are more than 60 ethical laxatives available for the constipated patient, many, unfortunately, do not really produce an effect much like a normal bowel movement. Instead they whip the bowel, torment it and leave it irritated, inflamed and exhausted.
On the other hand, Dulcolax provides a nearly normal movement. Through its unique contact action, it induces the kind of natural contraction waves of the colon necessary for gentle, complete, comfortable bowel movements.
For your next constipated patient, try Dulcolax–the laxative with the gentle touch.

Dulcolax, brand of bisacodyl tablets (5 mg.)

Under license from Boehringer Ingelheim G.m.b.H.

Geigy Pharmaceuticals
Division of
Geigy Chemical Corporation
Ardsley, New York

Dulcolax®
a gentle persuasion

Geigy

why wonder about a drug

when you know

DECLOMYCIN®
DEMETHYLCHLORTETRACYCLINE
s effective b.i.d.

ective in a wide range of everyday infections — respira-, urinary tract and others — in the young and aged — acutely or chronically ill — when the offending organ-s are tetracycline-sensitive.

traindication — History of hypersensitivity to demethyl-ortetracycline.

rning — In renal impairment, usual doses may lead to essive systemic accumulation and liver toxicity. Under h conditions, lower than usual doses are indicated , if therapy is prolonged, serum level determinations be advisable. A photodynamic reaction to natural or ficial sunlight has been observed. Small amounts of g and short exposure may produce an exaggerated burn reaction which may range from erythema to ere skin manifestations. In a smaller proportion, pho-lergic reactions have been reported. Patients should d direct exposure to sunlight and discontinue drug at first evidence of skin discomfort.

cautions and Side Effects — Overgrowth of nonsuscep-e organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

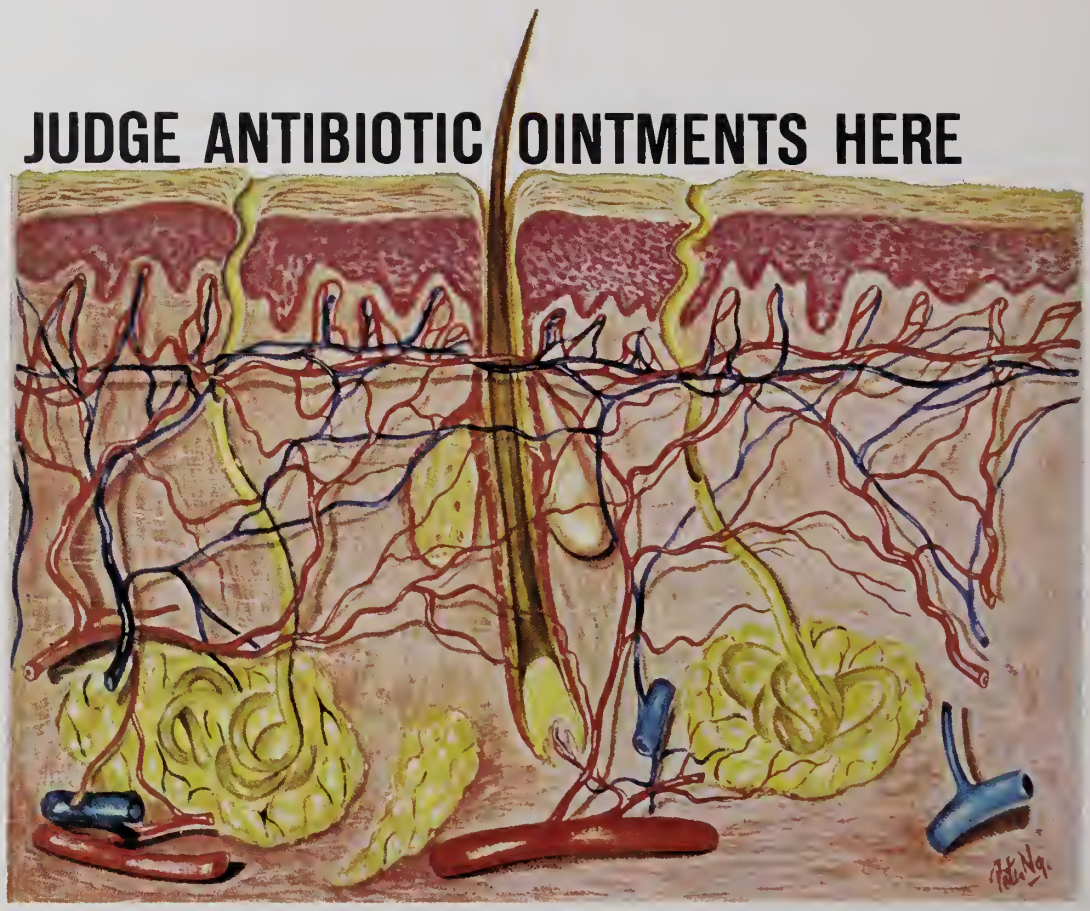
Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

Capsules: 150 mg; *Tablets:* film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.

DERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

417-6-4076

JUDGE ANTIBIOTIC OINTMENTS HERE



Results on skin are final proof of any topical antibiotic's effectiveness

No in vitro test can duplicate a clinical situation on living skin. 'Neosporin' (polymyxin B—bacitracin—neomycin) Ointment has consistently proven its effectiveness in thousands of cases of bacterial skin infection. The spectra of the three antibiotics overlap in such a way as to provide bactericidal action against most pathogenic bacteria likely to be found topically. Diffusion of the antibiotics from the special petrolatum base is rapid since they are insoluble in the petrolatum, but readily soluble in tissue fluids. The Ointment is bland and nonirritating.

Caution: As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

Contraindications: This product is contraindicated in those individuals who have shown hypersensitivity to any of its components.

Supplied: Tubes of 1 oz., ½ oz. with applicator tip, and ⅛ oz. with ophthalmic tip.

Complete literature available on request from Professional Services Dept. PML.

'NEOSPORIN'®
brand

POLYMYXIN B-BACITRACIN-NEOMYCIN
OINTMENT

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N.Y.

STUART CIRCLE HOSPITAL

413-21 STUART CIRCLE RICHMOND, VIRGINIA

Medicine:
MANFRED CALL, III, M.D.
ALEXANDER G. BROWN, III, M.D.
JOHN D. CALL, M.D.
WYNDHAM B. BLANTON, JR., M.D.
FRANK M. BLANTON, M.D.
WILLIAM W. MARTIN, JR., M.D.

Obstetrics and Gynecology:
WM. DURWOOD SUGGS, M.D.
SPOTSWOOD ROBINS, M.D.
DAVID C. FORREST, M.D.
JOSEPH C. PARKER, M.D.
WILLIAM M. OPPENHIMER, M.D.

Orthopedics:
BEVERLEY B. CLARY, M.D.
JAMES B. DALTON, JR., M.D.
FRANKLIN P. WATKINS, M.D.

Pediatrics:
EDWARD G. DAVIS, JR., M.D.
THOMAS P. OVERTON, M.D.
ALBERT S. THOMPSON, JR., M.D.
EDWARD J. WILEY, M.D.

Ophthalmology, Otolaryngology:
RICHARD W. DODD, M.D.
J. WARREN MONTAGUE, M.D.

Anesthesiology:
WILLIAM B. MONCURE, M.D
HETH OWEN, JR., M.D.

Surgery:
A. STEPHENS GRAHAM, M.D.
CHARLES R. ROBINS, JR., M.D.
CARRINGTON WILLIAMS, M.D.
RICHARD A. MICHAUX, M.D.
CARRINGTON WILLIAMS, JR., M.D.
ARMISTEAD M. WILLIAMS, M.D.

Urological Surgery:
FRANK POLE, M.D.
HARRY S. ROWLAND, JR., M.D.

Oral Surgery:
GUY R. HARRISON, D.D.S.

Physical Therapy
MARILYN B. MORRISON, R.P.T.

Plastic Surgery:
HUNTER S. JACKSON, M.D.

Roentgenology and Radiology:
HUNTER B. FRISCHKORN, JR., M.D.
WILLIAM C. BARR, M.D.
JAMES W. PROFFITT, M.D.

Pathology:
JAMES B. ROBERTS, M.D.

Director:
CHARLES C. HOUGH

Appalachian Hall • Asheville, North Carolina

ESTABLISHED 1916

An Institution for the diagnosis and treatment of Psychiatric and Neurological illnesses, rest, convalescence, drug and alcohol habituation.

Insulin Coma, Electroshock and Psychotherapy are employed. The Institution is equipped with complete laboratory facilities including electroencephalography and X-ray.

Appalachian Hall is located in Asheville, North Carolina, a resort town, which justly claims an all around climate for health and comfort. There are ample facilities for classification of patients, rooms single or en suite.

WM. RAY GRIFFIN, JR., M.D.
ROBERT A. GRIFFIN, JR., M.D.
MARK A. GRIFFIN, SR., M.D.
MARK A. GRIFFIN, JR., M.D.

For rates and further information write APPALACHIAN HALL, ASHEVILLE, N. C.

SAINT ALBANS

PSYCHIATRIC HOSPITAL

(A Non-Profit Organization)

Radford, Virginia

Telephone: 639-2482

STAFF

James P. King, M.D., Director

William D. Keck, M.D.
Clinical Director
James K. Morrow, M.D.
Morgan E. Scott, M.D.

Edward E. Cale, Jr., M.D.
Malcolm G. MacAulay, M.D.
Don L. Weston, M.D.
J. William Giesen, M.D.

Clinical Psychology:
Thomas C. Camp, Ph.D.
Card McGraw, Ph.D.
David F. Strahley, Ph.D.

Don Phillips, Administrator
R. Lindsay Shuff, M.H.A., Assist. Admin.

Social Service:
Harold M. Cook, M.S.W.

AFFILIATED CLINICS

Bluefield Mental Health Center
525 Bland St., Bluefield, W. Va.
David M. Wayne, M.D.

Beckley Mental Health Center
109 E. Main Street, Beckley, W. Va.
W. E. Wilkinson, M.D.

Charleston Mental Health Center
1206 Quarrier St., Charleston, W. Va.
E. E. Gimenez, M.D.

Mental Health Clinic
Professional Building, Wise, Va.
Pierce D. Nelson, M.D.

Gill Memorial Eye, Ear, Nose And Throat Hospital, Inc. And Clinic

707-711 South Jefferson Street • Roanoke, Virginia

STAFF

Dr. Elbyrne G. Gill
Dr. Houston L. Bell
Dr. Ronald B. Harris
Dr. Scott W. Little
Dr. Junius E. Crowgey
Dr. Antonio B. DeGala
George H. Bratton
Business Manager
David G. Williamson, Jr.
Administrator

A Modern Fireproof Hospital and Clinic, the Latter Recently Designed in the Adjacent Seven-O-Seven Building Especially Equipped for the Medical and Surgical Care of Ophthalmology, Otalaryngology, Surgery for Deafness, Rhinoplastic Surgery, Bronchoscopy and Esophagoscopy.

The Courtesy Staff also Includes Dental and Oral Surgery.
Complete Laboratory and X-Ray Equipment. Physicians and Graduate Nurses in Constant Attendance.

For further information, address:

Business Manager, Box 1789, Roanoke, Virginia 24008

Riverside Convalescent Home

Sophia & Fauquier Sts.
Fredericksburg, Virginia

Large, air-conditioned, Firesafe building with hospital-like facilities but in a cheerful home-like atmosphere. Twenty-four hour medical supervision and nursing care.

Recreational areas—Occupational and Physiotherapy. Excellent food service. Lovely Riverside Park. Inspection invited. All types of accommodations available.

Rates:
$50.00 to $80.00 per week

JOHNSTON-WILLIS HOSPITAL

RICHMOND, VIRGINIA

A MODERN GENERAL HOSPITAL
PRIVATELY MANAGED
SITUATED IN THE QUIET OF THE
WEST END RESIDENTIAL SECTION

BAYBERRY PSYCHIATRIC HOSPITAL

HAMPTON, VIRGINIA

A private psychiatric hospital for the treatment of nervous and emotional disorders and the various problems of addiction for both white and colored—employing modern diagnostic and treatment procedures—electro-convulsive and insulin, individual and group psychotherapy, chemotherapy.

WENDELL J. PILE, M.D.
Medical Director

HOWARD L. COX, M.D. BASIL E. ROEBUCK, M.D.

CLINICAL PSYCHOLOGISTS

WILLIAM E. TYSON, Chief Psychologist

CHARLES T. PERKINS MILAN S. WILSON

BROCHURE OF LITERATURE SENT ON REQUEST
Write or call:

BAYBERRY PSYCHIATRIC HOSPITAL
530 East Queen Street
Hampton, Virginia 23369
Telephone: PARK 2-2504

HIGHLAND HOSPITAL

ASHEVILLE, NORTH CAROLINA

FOUNDED 1904

A DIVISION OF THE DEPARTMENT OF PSYCHIATRY OF DUKE UNIVERSITY

Accredited by the Joint Commission on Accreditation and Certified for Medicare

Complete facilities for evaluation of and intensive treatment of psychiatric patients, including individual psychotherapy, group therapy, psychodrama, electro-convulsive therapy, Indoklon convulsive therapy, drugs, social service work with families, family therapy, and an extensive and well organized activities program, including occupational therapy, art therapy, athletic activities and games, recreational activities and outings. The treatment program of each patient is carefully supervised in order that the therapeutic needs of each patient may be realized.

Complete modern facilities with 85 acres of landscaped and wooded grounds in the City of Asheville.

Brochures and information on financial arrangements available

Contact: MRS. ELIZABETH HARKINS, ACSW, *Coordinator of Admissions*

or

CHARLES W. NEVILLE, JR., M.D.
Assistant Professor of Psychiatry and Medical Director

Area Code 704—253-2761

Fourth Decade of Nursing

PROMPTUS ET FIDELIS

MRS. PLYLER'S NURSING HOME

KATE E. PLYLER (1876-1947) MARY I. CLARK (1884-1955) GENE CLARK REGIRER (1912-1962)

A private nursing home dedicated to the care of chronic, convalescent and aged

MRS. EDNA SHEPHERD TARCEN, Superintendent

1615 Grove Avenue, Richmond, Virginia, Telephone EL 9-3221

Fire Protection by Grinnell Sprinkler System

ST. LUKE'S HOSPITAL
McGUIRE CLINIC

1000 West Grace Street
Richmond, Virginia

Internal Medicine
JOHN P. LYNCH, M.D.
WM. H. HARRIS, JR., M.D.
JOHN B. CATLETT, M.D.
ROBERT W. BEDINGER, M.D.
ALICE VIRGINIA THORPE, M.D.
DAVID L. LITCHFIELD, M.D.

General Surgery and Gynecology
WEBSTER P. BARNES, M.D.
JOHN H. REED, JR., M.D.
JOSEPH W. COXE III, M.D.
H. FAIRFAX CONQUEST, M.D.
GILBERT H. BRYSON, M.D.

Neurology
RAYMOND A. ADAMS, M.D.

Orthopedic Surgery
JAMES T. TUCKER, M.D.
BEVERLEY B. CLARY, M.D.
JAMES B. DALTON, JR., M.D.
EARNEST B. CARPENTER, M.D.
FRANKLIN P. WATKINS, M.D.
ERNEST L. CLEMENTS, M.D.

Urology
AUSTIN I. DODSON, JR., M.D.
J. EDWARD HILL, M.D.
WILLIAM T. STUART, JR., M.D.

Bronchoscopy
GEORGE AUSTIN WELCHONS, M.D

Radiology and Isotope Medicine
HENRY S. SPENCER, M.D.
DONALD E. SEIM, M.D.

Pathology
J. H. SCHERER, M.D.

Anesthesiology
HETH OWEN, JR., M.D.
WILLIAM B. MONCURE, M.D.
BEVERLY JONES, M.D.
BOYD H. MAY, M.D.

Administrator
WILLIAM D. GIBSON, M.H.A.
Secretary-Treasurer

ALL ROOMS AIR CONDITIONED
Free Parking for Patrons

Blessed event?

Not entirely, when nausea and vomiting occur in early pregnancy. Emetrol offers prompt and safe relief. Local rather than systemic action provides emesis control on contact with the hyperactive G.I. tract.* In a study of 123 pregnant women, the drug produced measurable improvement in 79% of patients in controlling vomiting.[1]

*As shown by *in vitro* studies.
1. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. *65*:311 (Feb.) 1953.

Emetrol®
phosphorated carbohydrate solution
emesis control

ROREER
WILLIAM H. RORER, INC.
Fort Washington, Pa.

Perhaps there have been times when you wanted to prescribe erythromycin and triple sulfas for little patients. Now you can—with a choice of two new fine-tasting pediatric forms.

New–Two Pediatric Forms of Erythromycin and Triple Sulfas

ERYTHROCIN®-SULFAS Chewable (Erythromycin ethyl succinate-trisulfapyrimidines chewable tablet)

In clinical trials[1,2], this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

A clinical cure rate of 94.5%

ERYTHROCIN®-SULFAS Granules (Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated[1,2]—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

701358

A clinical cure rate of 97.7%

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.

ABBOTT

Brief Summary on next page

ERYTHROCIN®-SULFAS
Brief Summary

Contraindications: Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

Warnings: As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

Precautions, Side Effects: Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steriods, etc.) should be administered and the drug withdrawn.

Adverse Reactions: Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

Supplied: The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.

ABBOTT

701358

Every Virginia Doctor Should Have These Books!

The history of medicine in the Old Commonwealth from Jamestown to the beginning of the present century is a work every doctor should be proud to own. Complete and intensely interesting.

Medicine In Virginia

By Wyndham B. Blanton, M.D.
Published under the Auspices of
The Medical Society of Virginia

Reduced price to members of The Medical Society of Virginia
18th Century—$2.00
19th Century—$2.00

Order through

The Medical Society of Virginia
4205 Dover Road
Richmond 21, Virginia

Today's Health
PUBLISHED BY THE American Medical Association
FOR THE AMERICAN FAMILY

A Good Buy in Public Relations

✶ Place it in your reception room

Today's Health is published for the American Family by the American Medical Association, 535 N. Dearborn St.—Chicago 10, Illinois

Give your subscription order to a member of your local Medical Society Woman's Auxiliary, who can give you Special Reduced Rates.

"Livingston...vertigo is my doom!"
Cried Stanley in his doctor's room.

Said the doc, "For your ills
I've got just the pills."

Said Stan,
"Antivert, I presume."

Antivert® tablets/syrup stops vertigo
(meclizine HCl, niacin)

Tablets: (meclizine HCl 12.5 mg. and niacin 50 mg.) Syrup: (each 5 cc. teaspoonful contains meclizine HCl 6.25 mg. and niacin 25 mg.)

Most widely prescribed anti-vertigo agent[1] Complete to moderate relief of symptoms in 9 out of 10 patients[2]

Antivert, the leading anti-vertigo product,[1] combines meclizine HCl, an outstanding drug for treatment of vestibular dysfunction, with niacin, a drug of choice for prompt vasodilation. Prescribe Antivert for your patients with vertigo, Meniere's syndrome and allied disorders.

Precautions and contraindications: Frequent, short-lived reactions include: cutaneous flushing, sensations of warmth, tingling and itching, burning of skin, increased gastrointestinal motility, and sebaceous gland activity. In explaining these reactions to the patient, it is suggested that they be regarded as a desirable physiological sign that the niacin is carrying out its intended function of vasodilation. Because of this vasodilation, severe hypotension and hemorrhage are obvious contraindications to Antivert therapy. Although the incidence of drowsiness and other atropine-like side effects such as dry mouth and blurring of vision is low, the physician should alert the patient to the need for due precautions when engaging in activities where alertness is mandatory. **Use in women of childbearing age:** A review of available animal data reveals that meclizine exerts a teratogenic response in the rat. In one study a dose of 50 mg./kg./day (50 times the maximum recommended human dose) produced cleft palate in 2 of 87 fetuses when administered to the rat at critical times during the first 15 days of gestation. At doses of 125 mg./kg./day, meclizine will produce 100% incidence of cleft palate in the rat. At doses of 25 mg./kg./day, decreased calcification of the vertebrae and relative shortening of the limbs were also produced in the rat, but experts disagree as to whether this is a teratogenic response. While available clinical data are inconclusive, scientific experts are of the opinion that this drug may possess a potential for adverse effects on the human fetus. Consequently, consideration should be given to initial use of a nonphenothiazine agent that is not suspected of having a teratogenic potential. In any case, the dosage and duration of treatment should be kept to a minimum. **Dosage:** One tablet or one to two teaspoonfuls (5-10 cc.) t.i.d. just before meals. Specific requirements for individual patients should be determined by the physician. **Supplied:** Tablets in bottles of 100 and 500. Syrup in pint bottles. RX only.

References: 1. Based on 1966 data from independent physicians' market survey organization. 2. Scal, J. C.: Eye Ear Nose & Throat Month. **38**:738 (Sept.) 1959.

Neobon®
geriatric supplement

helps keep them 'on the go'

Each capsule contains:

(1) **Vitamins and Minerals**	
Vitamin A (acetate)	2000 U.S.P. units
Vitamin D (ergocalciferol, U.S.P.)	200 U.S.P. units
Vitamin B_1 (thiamine mononitrate, U.S.P.)	0.5 mg.
Vitamin B_2 (riboflavin, U.S.P.)	0.5 mg.
Vitamin B_6 (pyridoxine HCl, U.S.P.)	0.5 mg.
Niacinamide, U.S.P.	50 mg.
Calcium pantothenate, U.S.P.	5 mg.
Vitamin E (di-alpha tocopheryl acetate)	5 I.U.
Rutin	5 mg.
Cobalt (from cobalt sulfate)	0.033 mg.
Molybdenum (from sodium molybdate)	0.066 mg.
Copper (from copper sulfate)	0.33 mg.
Manganese (from manganese sulfate)	0.33 mg.
Magnesium (from magnesium sulfate)	2 mg.
Iodine (from potassium iodide)	0.05 mg.
Potassium (from potassium sulfate)	1.66 mg.
Zinc (from zinc sulfate)	0.4 mg.
(2) **Hematopoietic Factors**	
Iron (from ferrous sulfate)	3.40 mg.
Vitamin B_{12} (cobalamin concentrate, N.F., as Stablets®)	1 mcg.
Vitamin C (ascorbic acid, U.S.P.)	50 mg.
(3) **Digestive Enzyme**	
Pancreatic substance*	50 mg.
(4) **Gonadal Hormones**	
Methyltestosterone, N.F.	1.0 mg.
Ethinyl Estradiol, U.S.P.	0.006 mg.
(5) **Amino Acids**	
L-lysine (monohydrochloride)	50 mg.
L-Glutamic acid	30 mg.

*Enzymatically active defatted material obtained from 250 mg. of whole fresh pancreas.

For older adults who require it, daily supplementation with Neobon can help overcome decreases in endogenous gonadal hormone production, as well as deficiencies of iron, vitamins and other nutritional factors. In a single convenient capsule, Neobon provides vitamins, minerals, gonadal hormones, hematopoietic factors, digestive enzymes, and amino acids—all selected for adjunctive therapeutic value in the geriatric syndrome. For example, one of the gonadal hormones in Neobon is ethinyl estradiol. It is more slowly metabolized in the body than natural estrogens or their esters.

Precautions: Contraindicated in patients in whom estrogen or androgen therapy should not be used, as in carcinoma of the breast or prostate.

Dosage: One capsule, t.i.d. with meals, or as directed by physician.

Supplied: Bottles of 60 capsules. Rx only.

J.B. ROERIG DIVISION
CHAS. PFIZER & CO., INC.
NEW YORK, N.Y. 10017

Against these three major pathogens...

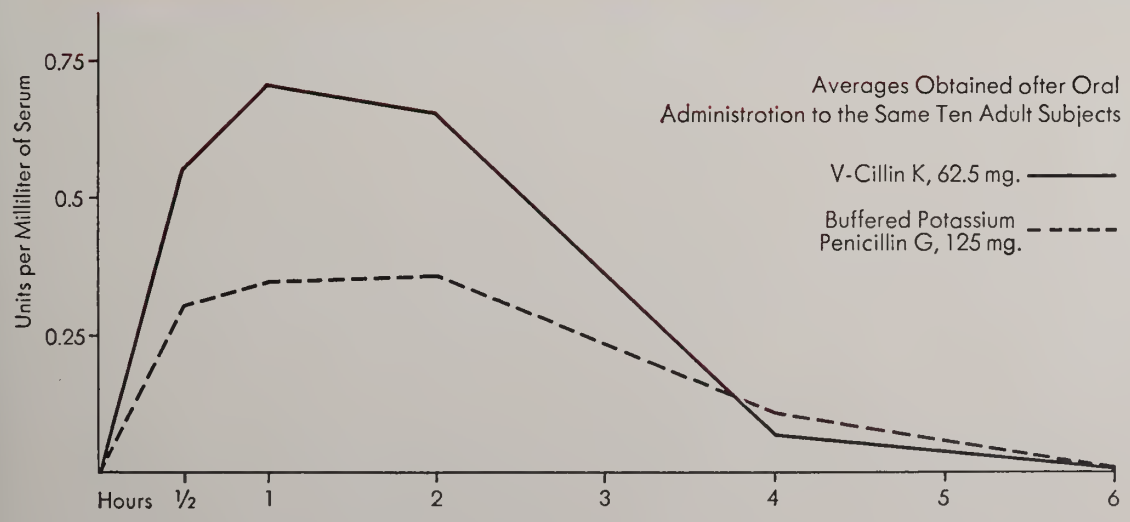
V-Cillin K® provides dependable oral antibacterial activity

because it combines a high degree of in-vitro activity...

Antibiotic	Staph. Aureus (Penicillin-Sensitive) MIC (mcg./ml.) Median	Range	Streptococcus, Group A MIC (mcg./ml.) Median	Range	Diplococcus Pneumoniae MIC (mcg./ml.) Median	Range
Penicillin V	0.02	0.02-0.04	0.02	0.003-0.4	0.01	0.005-0.2
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nofcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269:1019, 1963.

with high blood levels, even in the presence of food



Adapted from Griffith, R. S., and Black, H. R.: Current Ther. Res., 6 253, 1964.

V-Cillin K® Lilly 700636

Potassium Phenoxymethyl Penicillin

(See next page for prescribing information.)

New 500 mg. tablets...a more convenient way to give high doses

Description: V-Cillin K is the potassium salt of V-Cillin® (phenoxymethyl penicillin, Lilly). This chemically impraved form combines acid stability with immediate solubility and rapid absorption. Higher serum levels are abtained more rapidly with this penicillin than with equal oral doses af penicillin G. The higher serum levels and acid stability of V-Cillin K make it a more dependable penicillin for oral use.

V-Cillin K, Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed, each 5 cc. (approximately one teaspaonful) will contain 125 mg. (200,000 units) phenoxymethyl penicillin as the potassium salt.

Indications: V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the praphylaxis af streptococcus infections in patients with a history af rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

Contraindication: V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

Warnings: In rare instances, the use of penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type af reaction appears more frequently in patients with a history of sensitivity reactions ta penicillin and in those with bronchial asthma or other allergies. Resuscitative drugs should be readily available for emergency administration. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for relief of immediate allergic manifestations and antihistamines and corticosteraids for delaye effects.

Precautions: V-Cillin K should be used cautiously, if at all, in a patier with a strongly positive history of allergy.

In pralonged therapy with penicillin, and particularly with hig parenteral dosage schedules, frequent evaluation of the renal an hematopoietic systems is recammended.

In suspected staphylococcus infections, praper laboratary studie (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth c pencillin-insensitive organisms. In such cases, its administration shoul be discontinued, and appropriate measures should be taken.

Adverse Reactions: Although serious allergic reactions are much les common with administration of oral penicillin than with intramuscula forms, manifestations of penicillin allergy may occur.

Penicillin is a substance of low toxicity, but it does possess a signif cant index of sensitization. The following hypersensitivity reaction associated with the use of penicillin have been reported: skin roshe ranging from maculopapular eruptions to exfoliative dermatitis; urt caria; and reactions resembling serum sickness, including chills, feve edema, arthralgia, and prostration. Severe and often fatal anaphylox has occurred (see Warnings). Hemolytic anemia, leukopenia, thron bocytopenia, and nephropathy are rarely observed side-effects an are usually associated with high parenteral dosage.

Administration and Dosage: For Tablets V-Cillin K and for V-Cillin K Pediatric, the usual dosage ranges from 125 mg. (200,000 units) thre times a day to 500 mg. (800,000 units) every four hours. For infant the daily dosage may be 50 mg. per Kg. of body weight divided int three doses.

Beta-hemolytic streptococcus infections without associated bo teremia may be treated with 200,000 to 400,0000 units three times day. Therapy should be continued for a minimum of ten days to preve development of rheumatic fever and/or other serious complication Dosage for routine streptococcus prophylaxis in patients with a histo of rheumatic fever or congenital heart disease may be 200,000 un once or twice daily. When such patients undergo tonsillectomy, too extraction, or other minor surgery, the prophylactic dose should 500,000 units every six hours given two days prior to surgery and f two days postoperatively. If oral medication is not feasible on the d of surgery, parenteral therapy should be considered. Mild to mod ately severe pneumococcus pneumonia has been treated effective with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be giv every six to eight hours in canjunction with indicated surgical proc dures.

For gonorrhea in males, 500 mg. (800,000 units) every four hou for three doses may be employed; in females, 500 mg. every four hou for six doses are recommended. Patients with a suspected lesion syphilis should have a dark-field examination before receiving penicil and monthly serologic tests for a minimum of three months.

How Supplied: Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units), bottles of 50 and 100; and 250 mg. (400,0000 units) and 500 m (800,000 units), in bottles of 24 and 100.

V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,0000 units) p 5 cc. of solution, in 40, 80, and 150-cc.-size packages. [011867]

Additianal inlormation available to physicians upon request. Eli Lilly and Company, Indianapalis, Indiana 46206.

Lilly

Richmond Eye Hospital
Richmond Ear, Nose and Throat Hospital

408 North 12th Street
Richmond, Virginia 23219

An Independent Specialized Non-Profit Community Hospital Dedicated to the Treatment and Cure of Eye, Ear, Nose and Throat Diseases and Disorders.

Professional care offered a limited number of indigent patients.

Direct inquiries to John H. Tobin, Jr., Administrator

408 N. 12th Street, Richmond, Virginia

TUCKER HOSPITAL Inc.

212 West Franklin Street

Richmond, Virginia

A private hospital for diagnosis and treatment of psychiatric and neurological disorders. Hospital and out-patient services.

James Asa Shield, M.D.
George S. Fultz, Jr., M.D.
Catherine T. Ray, M.D.
Weir M. Tucker, M.D.
Edward W. Gamble, III, M.D.
Gerald W. Atkinson, M.D.

DEPRESSION

NORPRAMIN®
(desipramine hydrochloride)

ANTIDEPRESSANT FOR RAPID IMPROVEMENT

At the recommended dosage level —initially, 150 mg. per day— gratifying remission of the signs and symptoms of depression typically begins in 2-5 days. Its specificity for depression, rapidity of action and usually mild side effects are significant reasons for prescribing NORPRAMIN (desipramine hydrochloride) in depression of any type . . . any degree of severity.

A few patients, sensitive to central nervous system stimulants may become restless as depression is lifted—in such cases dosage may be reduced or a tranquilizer added.

IN BRIEF:

INDICATIONS: In depression of any kind —neurotic and psychotic depressive reactions; manic-depressive or involutional psychotic reactions.

CONTRAINDICATIONS: Glaucoma, urethral or ureteral spasm, recent myocardial infarction, severe coronary heart disease, epilepsy. Should not be given within two weeks of treatment with a monoamine oxidase inhibitor.

RELATIVE CONTRAINDICATIONS: (1) Patients with a history of paroxysmal tachycardia. (2) Patients receiving concomitant therapy with thyroid, anticholinergics or sympathomimetics may experience potentiation of effects of these drugs. (3) Safety in pregnancy has not been established.

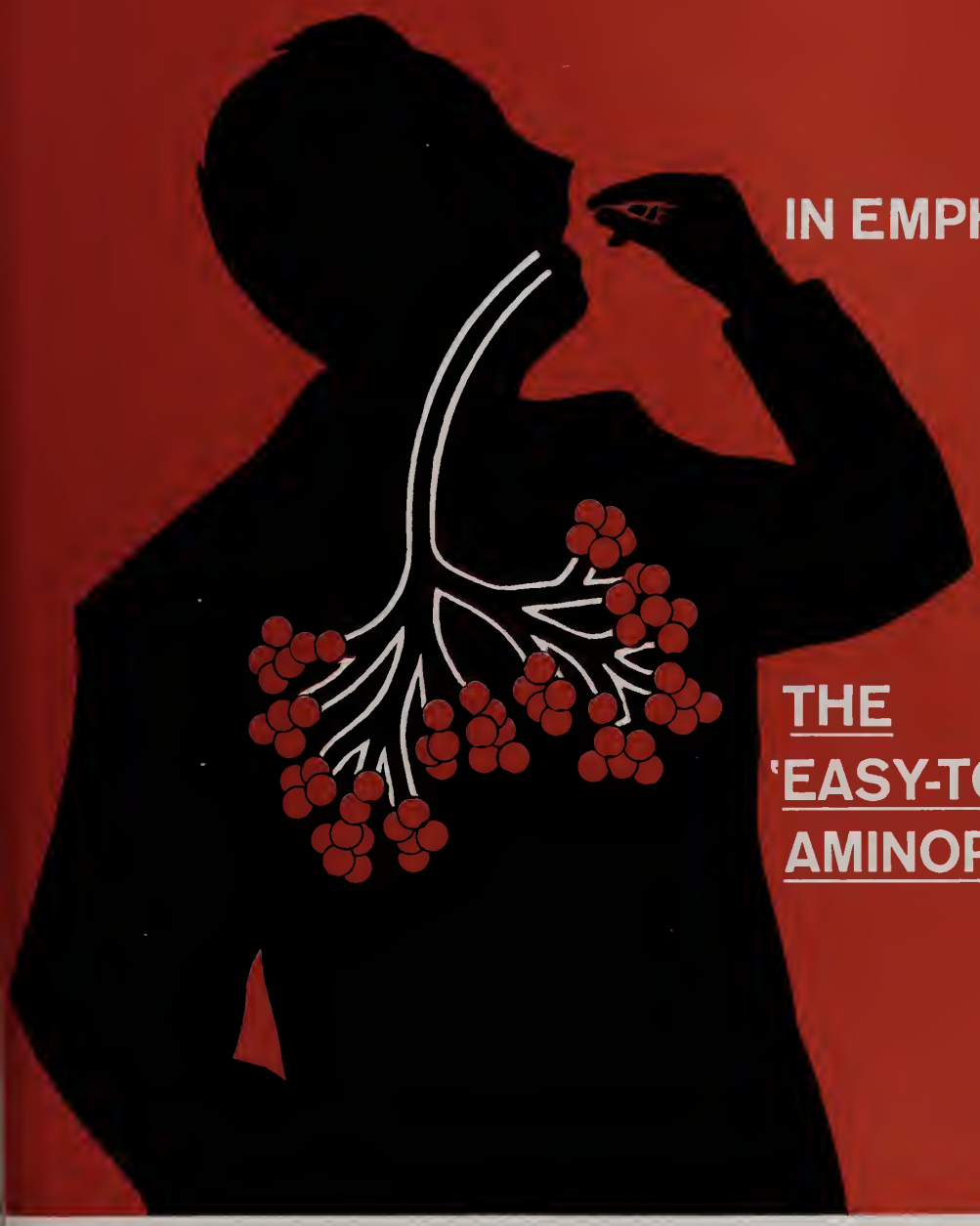
PRECAUTIONS: (1) Outpatient use of desipramine hydrochloride should not be substituted for hospitalization when risk of suicide or homicide is considered grave. (2) If serious adverse effects occur, reduce dosage or alter treatment. (3) In patients with manic-depressive illness a hypomanic state may be induced. (4) Discontinue drug as soon as possible prior to elective surgery.

ADVERSE EFFECTS: Side effects, usually mild, may include: dry mouth, constipation, dizziness, palpitation, delayed urination, "bad taste," sensory illusion, tinnitus, anxiety, agitation and stimulation, insomnia, sweating, drowsiness, headache, orthostatic hypotension, flushing, nausea, cramps, weakness, blurred vision and mydriasis, rash, tremor, allergy, agranulocytosis, altered liver function, ataxia, and extrapyramidal signs.

DOSAGE: Optimal results are obtained at a dosage of 50 mg., t.i.d. (150 mg./day). **SUPPLIED:** NORPRAMIN (desipramine hydrochloride) tablets of 25 mg.; bottles of 50, 500 and 1000; and tablets of 50 mg., in bottles of 30, 250 and 1000.

LAKESIDE

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201



IN EMPHYSEMA

THE 'EASY-TO-TAKE' AMINOPHYLLINE

Aminophylline dura-tabs®

prolonged-medication tablets 4½ gr. (0.3 Gm.)

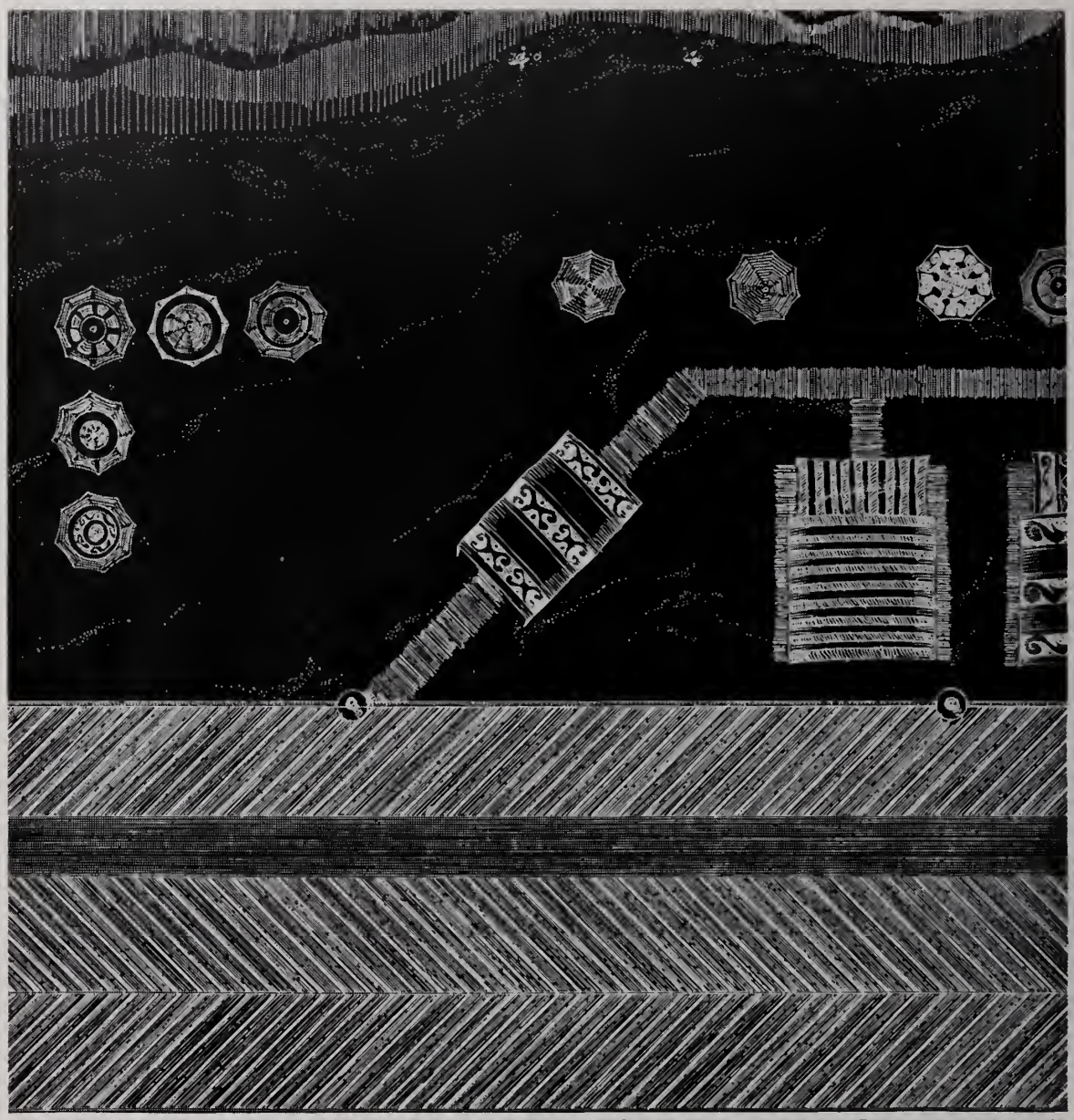
Precautions: Use with caution in patients with poor renal function as a decreased rate of excretion may lead to accumulation and untoward reactions. Gastric irritation may occasionally be observed in certain patients sensitive to oral aminophylline.

Dosage: Adults, 1 to 2 Aminophylline Dura-Tabs each 8 or 12 hours, with food.

RARELY UPSET THE STOMACH

Oral aminophylline needn't disturb the stomach—nor a good night's sleep. Patients breathe easier all day, sleep better all night, as each Aminophylline Dura-Tab dose provides effective therapeutic activity for up to 12 hours. And unlike conventional tablets, AMINOPHYLLINE DURA-TABS seldom cause gastric distress. The special Dura-Tab process allows the gradual absorption of the medication from the intestinal tract with only a small fraction of the dose released in the stomach.

WYNN Pharmaceuticals, Inc., Phila., Pa. 19132 • Manufacturers of QUINAGLUTE® DURA-TABS®



AMA · 116th Annual Convention · Atlantic City, New Jersey · June 18-22, 1967

Come to Atlantic City—one of America's favorite by-the-sea playgrounds—and join your colleagues at the AMA's 116th ANNUAL CONVENTION!

Fine hotels and motels, excellent restaurants, plus all the advantages of a lively resort make this year's Convention a must for you and your family. Atlantic City provides a superb setting for a summer classroom and all the latest techniques of modern medicine. Plan to be one of the participants in this rewarding four day postgraduate education program.

• Four general scientific sessions • 23 section programs • 575 scientific and industrial exhibits. Lectures, panel discussions, motion pictures, and color television. Plan to attend—continue your postgraduate education.

RESERVE NOW for the SCIENTIFIC AWARDS DINNER in honor of the Scientific Award Winners—Wednesday, June 21, 1967. Since space is limited, we suggest you make your reservations before June 1, 1967. Tickets are $10.00 each, payable in advance.

See JAMA May 8, 1967 for complete scientific program—forms for advance registration and hotel accommodations.

She simply sits while the party goes on around her, already used to being the girl who is left out. She tries to lose weight—but her emotions won't let her. She becomes irritable and depressed when she doesn't eat, and anxious when she considers her future. So each time she gives up.

"What can I do?" she asks when she visits your office. "How can I ever stay on a diet and lose weight?"

A PARTICULAR COMBINATION OF ACTIONS

Ambar #2 Extentabs®

methamphetamine hydrochloride 15 mg., phenobarbital 64.8 mg. (1 gr.)
(Warning: may be habit forming).

FOR THE NEEDS OF THE DIETING WOMAN

A. H. Robins Co., Inc.
Richmond, Va. 23220

A·H·ROBINS

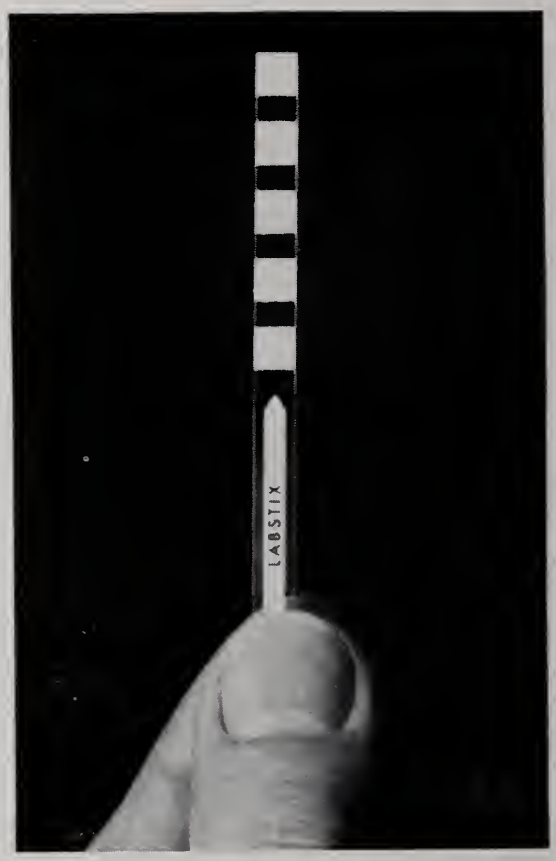
Ambar is formulated to specifically meet both the physical and emotional needs of the woman who is trying to lose weight. *Methamphetamine hydrochloride* has a powerful suppressant effect on the appetite and also provides a gentle psychic lift to improve mood and encourage activity. The *phenobarbital* component, through its classic calming action, helps control irritability and anxiety, and helps counteract excessive CNS stimulation.

Also available: Ambar #1 Extentabs®—methamphetamine hydrochloride 10 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

BRIEF SUMMARY / *Indications:* Ambar suppresses appetite and helps offset emotional reactions to dieting. *Side Effects:* Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. *Precautions:* Administer with caution in the presence of cardiovascular disease or hypertension. *Contraindications:* Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. See package insert for further details.

INDEX TO ADVERTISERS

Abbott Laboratories 62-64
American Medical Association 72
American Tobacco Co. 76
Ames 74-75
Appalachian Hall 57
Bayberry Psychiatric Hospital 59
Bristol 20-21
Burroughs Wellcome & Co. 56
Dorsey 43-46
Dyer, David A., Insurance 8-9
Eli Lilly and Co. 30-32, 42, 66-68, 78-79
Geigy 16-18, 26-27, 53
Gill Memorial 58
Highland Hospital 60
Hynson, Westcott & Dunning, Inc. 3
Jefferson, A. G. 26
Johnston-Willis Hospital 59
Jones and Vaughan 7
Lakeside Laboratories 19, 22, 70
Lederle Laboratories 11, 47, 54-55, 77
Medicine in Virginia 26, 64
Wm. S. Merrell Company 50-51
Parke, Davis & Company ..... Second Cover
Peoples Service Drug Stores 80
Pitman-Moore 10
Plyler's Nursing Home, Mrs. 60
Poythress, William P. & Co. 75
Richmond Eye Hospital—Richmond Ear, Nose and Throat Hospital 69
Riverside Convalescent Home 59
Robins, A. H 73
Roche Laboratories ..... 12-13, 24-25, Back Cover
Roerig 65
Rorer, William H., Inc. 61
Saint Albans Psychiatric Hospital 58
Sandoz Pharmaceuticals 28-29
Searle, G. D. & Co. 14-15
St. Elizabeth's Hospital 52
St. Luke's Hospital 61
Stuart Company ..... Inside Back Cover
Stuart Circle Hospital 57
Syntex Laboratories 33-41
Terrace Hill Nursing Home 52
Today's Health 64
Tucker Hospital, Inc. 69
Valentine Company, Inc. 24
Williams Printing Co. 6
Winthrop Laboratories 5
Wyeth Laboratories 48-49
Wynn Pharmaceuticals 23, 71



Take five...

LABSTIX® provides 5 important urinary findings*—on a single reagent strip! That's *more* information than you can get from any other single reagent strip. You know the results in just 30 seconds—while the patient is still in your office—and readings are reliable and reproducible. LABSTIX is easy to handle, too. Never goes limp, even when wet, because it's made with clear, firm plastic. And results with LABSTIX are easy to read—color contrast between the test areas and the transparent plastic is clearly defined. An unexpected "positive" from testing with LABSTIX may help in detecting hidden pathology before marked symptoms are manifest.

*Blood; ketones; glucose; protein, and pH.

AMES COMPANY
Division Miles Laboratories, Inc.
Elkhart, Indiana 46514

Ames

Note: *AMERICAN HOSPITAL FORMULARY SERVICE CATEGORY NUMBER 36:88*

40167

...Plus one

You can extend your testing scope by including ICTOTEST® Reagent Tablets, the 30-second determination for bilirubinuria—which can be an early sign of obstruction of the common bile duct, infectious hepatitis, or other liver disease. This test is also useful for detecting liver damage from carbon tetrachloride and other halogenated hydrocarbons used as industrial and household solvents. Positive findings with the urine-testing team of LABSTIX and ICTOTEST can represent significant guides to patient management in many clinical situations. "Negatives" may help rule out suspected abnormalities over a broad clinical range and are important for the patient's record.

AMES COMPANY
Division Miles Laboratories, Inc.
Elkhart, Indiana 46514

Ames

Note: *AMERICAN HOSPITAL FORMULARY SERVICE CATEGORY NUMBER 36:88*

40167

mudrane®

for

- EMPHYSEMA
- ASTHMA
- CHRONIC BRONCHITIS
- BRONCHIECTASIS

The fast-disintegrating uncoated tablet gives relief in 15 minutes

Each tablet contains:

Potassium Iodide	195 mg.
Aminophylline	130 mg.
Phenobarbital, Caution: May be habit forming	21 mg.
Ephedrine HCl	16 mg.

FEDERAL LAW PROHIBITS DISPENSING WITHOUT PRESCRIPTION

Precautions: Usual for aminophylline-ephedrine-phenobarbital. Iodides may cause nausea, long use may cause goiter. Discontinue if symptoms of iodism develop.

Iodide contraindications: tuberculosis, pregnancy.

DOSAGE

One tablet, with full glass of water, 3 or 4 times daily.

Dispensed in bottles of 100 and 1000 tablets.

MUDRANE GG—Formula, dosage and package identical to Mudrane—*except*—100 mg. glyceryl guaiacolate replaces the potassium iodide. The value of Mudrane cannot be enjoyed by a small group in which K.I. is contraindicated. Mudrane GG is prepared for this group.

MUDRANE GG ELIXIR—Four 5 cc teaspoonfuls is equivalent to one Mudrane GG tablet. Dosage adjusted to age and weight of child. Mudrane GG Elixir is for pediatric patients and those who think they cannot swallow tablets. Dispensed in pint and half gallon bottles.

WM. P. POYTHRESS & CO., INC.
RICHMOND, VIRGINIA 23217
Manufacturers of ethical pharmaceuticals since 1856

Tareyton...with the taste worth fighting for

America's largest-selling charcoal-tip cigarette

©The American Tobacco Company

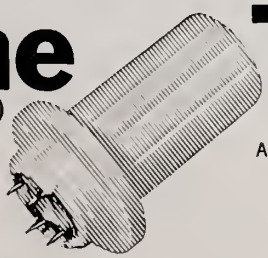
what time is it?

For the past
two years
there's been
one new case
of active tuberculosis
reported for every
four thousand
of U.S. population.

it's time to tine.

Tuberculin, Tine Test

(Rosenthal) Lederle



Available in 5's and 25's.
Order now
from your pharmacist
or your Lederle
representative.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

414-6—4046R

when he just can't sleep

Tuinal

One-Half Sodium Amobarbital and
One-Half Sodium Secobarbital
supplied in ¾, 1½, and 3-grain Pulvules

uinal helps wakeful patients fall asleep fast, stay sleep all night.

ıdications: Tuinal, comprised of equal parts of Seconal® ɔdium (sodium secobarbital, Lilly) and Amytal® Sodium odium amobarbital, Lilly), is indicated for prompt and oderately long-acting hypnosis. Not suitable for conıuous daytime sedation.

ɔntraindications: Barbiturates should not be administred to anyone with a history of porphyria, nor should ey be given in the presence of uncontrolled pain, beıuse excitement may result.

'arning: May be habit-forming.

ecautions: Tuinal should be used cautiously in patients with decreased liver function, since prolongation of effect may occur.

Adverse Reactions: Idiosyncrasy, such as excitement, hangover, or pain, may appear. Hypersensitivity reactions occur in some patients, especially in those with asthma, urticaria, or angioneurotic edema.

Dosage: 1½ to 3 grains at bedtime.

Additional information available to physicians upon request.
Eli Lilly and Company • Indianapolis, Indiana 46206

Lilly

700695

Fishing fever can land him in deep water...

One of a series that has been published by Peoples Drug Stores in the daily papers to keep the public better informed on matters of health.

It may be YOU that gets fished out of the water. And it's really not just a funny idea. It's a rule of safety. Standing up to cast, especially in smaller boats, is one of the more dangerous of broken safety rules. Knowing and following the rules for safety around the water is very important. So go ahead . . . have your fishing fun . . . but play it safe. Always keep a first aid kit handy, and a flashlight, just in case. Check your first aid and safety equipment now, and stock up at your nearby Peoples Drug Store. From a roll of adhesive tape to a critical prescription, Peoples is here to serve you. Seven Peoples Drug Stores are open 24 hours a day. See the Yellow Pages for the Peoples Drug Store nearest you. You will always be served courteously, efficiently and professionally.

PEOPLES
PRESCRIPTION DRUG STORES

ALL PEOPLES DRUG STORES FILLED OVER 7 MILLION PRESCRIPTIONS IN 1965 . . . A MEASURE OF THE TRUST PEOPLE HAVE IN PEOPLES.

Trying for the one that got away can make a "fall" guy out of even the most careful fisherman. He knows the safety rules, but sometimes enthusiasm for the sporting game can lead to carelessness. Every physician has seen examples of an outdoor adventure that became an outdoor tragedy. We believe in preventive safety, just as you do, Doctor. That's why we try to remind people of the importance of playing it safe in *all* matters relating to health. Peoples Drug Stores will always be happy to support you and your efforts in every possible way.

PEOPLES® PRESCRIPTION DRUG STORES

ALL PEOPLES DRUG STORES FILLED OVER 7 MILLION PRESCRIPTIONS IN 1966. A MEASURE OF THE TRUST PEOPLE HAVE IN PEOPLES.

In peptic ulcer... antacid therapy with a new benefit

CONTAINS A BALANCED COMBINATION OF THE MOST WIDELY USED ANTACIDS— FOR RAPID NEUTRALIZATION. PLUS SIMETHICONE— TO CONTROL THE FACTOR WHICH ANTACIDS ALONE CANNOT INFLUENCE.

Mylanta®

- In Mylanta, aluminum and magnesium hydroxides are balanced to minimize the chance of constipation or laxation and still achieve rapid acid neutralization and pain relief.
- The positive action of simethicone helps relieve the painful gas symptoms which often accompany the peptic ulcer syndrome.
- The nonfatiguing flavor and smooth, nongritty consistency of tablets and liquid encourage continued patient cooperation during long-term therapy.

Composition: Each Mylanta chewable tablet or teaspoonful (5 ml.) of liquid contains: magnesium hydroxide, 200 mg.; aluminum hydroxide, dried gel, 200 mg.; simethicone, 20 mg. **Dosage:** one or two tablets, well chewed or allowed to dissolve in the mouth, or one or two teaspoonfuls of liquid to be taken between meals and at bedtime.

The Stuart Company, Pasadena, California
Division of Atlas Chemical Industries, Inc.

Stuart

WHEN ANXIETY IS A SIGNIFICANT COMPONENT OF THE CLINICAL PROFILE

LIBRIUM®

(chlordiazepoxide HCl)

Also available as
LIBRITABS™ (chlordiazepoxide)
5-mg, 10-mg, 25-mg tablets

ROCHE

Before prescribing, please consult complete product information, a summary of which follows:

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of child-bearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver-function tests advisable during protracted therapy.

Usual Daily Dosage: Individualize for maximum beneficial effects. *Oral*—Adults: Mild and moderate anxiety and tension, 5 or 10 mg t.i.d. or q.i.d.; severe states, 20 or 25 mg t.i.d. or q.i.d. Geriatric patients: 5 mg b.i.d. to q.i.d. (See Precautions.)

Supplied: Librium® (chlordiazepoxide HCl) Capsules, 5 mg, 10 mg and 25 mg—bottles of 50. Libritabs™ (chlordiazepoxide) Tablets, 5 mg, 10 mg and 25 mg—bottles of 100. With respect to clinical activity, capsules and tablets are indistinguishable.

Roche Laboratories • Division of Hoffmann-La Roche Inc • Nutley, N.J. 07110

VIRGINIA MEDICAL MONTHLY

THE PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

Whether the allergen is greenish or garish, unseen or unknown, your patient can get symptomatic relief with BENADRYL—the potent antihistamine with antispasmodic action. *INDICATIONS:* Antihistaminic, antispasmodic, antitussive, and antiemetic therapy. *PRECAUTIONS:* Persons who have become drowsy on this or other antihistamine-containing drugs, or whose tolerance is not known, should not drive vehicles or engage in other activities requiring keen response while using this product. Hypnotics, sedatives, or tranquilizers if used with diphenhydramine hydrochloride should be prescribed with caution because of possible additive effect. Diphenhydramine has an atropine-like action which should be considered when prescribing diphenhydramine hydrochloride. *ADVERSE REACTIONS:* Side effects are generally mild and may affect the nervous, gastrointestinal, and cardiovascular systems. Drowsiness, dizziness, dryness of the mouth, nausea, nervousness, palpitation, blurring of vision, vertigo, headache, muscular aching, thickening of bronchial secretions, restlessness, and insomnia have been reported. Allergic reactions may occur.

BENADRYL is available in Kapseals® of 50 mg. and Capsules of 25 mg.

00667

The pink capsule with the white band is a trademark of Parke, Davis & Company.

PARKE-DAVIS

LACTINEX®

TABLETS & GRANULES

■ **to help restore and stabilize the intestinal flora**

■ **for fever blisters and canker sores of herpetic origin**

LACTINEX contains both *Lactobacillus acidophilus* and *L. bulgaricus* in a standardized viable culture, with the naturally occurring metabolic products produced by these organisms.

First introduced to help restore the flora of the intestinal tract in infants and adults,[1,2,3,4] LACTINEX has also been shown to be useful in the treatment of fever blisters and canker sores of herpetic origin.[5,6,7,8]

No untoward side effects have been reported to date.

Literature on indications and dosage available on request.

References:

(1) Siver, R. H.: CMD, *21*:109, September 1954. (2) Frykman, H. H.: Minn. Med., *38*:19-27, January 1955. (3) McGivney, J.: Tex. State Jour. Med., *51*:16-18, January 1955. (4) Quehl, T. M.: Jour. of Florida Acad. Gen. Prac., *15*:15-16, October 1965. (5) Weekes, D. J.: N.Y. State Jour. Med., *58*:2672-2673, August 1958. (6) Weekes, D. J.: EENT Digest, *25*:47-59, December 1963. (7) Abbott, P. L.: Jour. Oral Surg., Anes., & Hosp. Dental Serv., 310-312, July 1961. (8) Rapoport, L. and Levine, W. I.: Oral Surg., Oral Med. & Oral Path., *20*:591-593, November 1965.

HYNSON, WESTCOTT & DUNNING, INC.

BALTIMORE, MARYLAND 21201

(LX04)

LX
LX
LX

VIRGINIA MEDICAL MONTHLY

(Founded by Landon B. Edwards, M.D., April, 1874)

PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF VIRGINIA

4205 DOVER ROAD, RICHMOND, VIRGINIA 23221

EDITORIAL BOARD

HARRY J. WARTHEN, M.D.
Chairman and Editor

H. LAMONT PUGH, M.D.
Vice Chairman

C. V. CIMMINO, M.D.

CHARLES E. DAVIS, JR., M.D.

J. SHELTON HORSLEY, III, M.D.

GORDON W. JONES, M.D.

WILLIAM H. KAUFMAN, M.D.

JOHN A. MARTIN, M.D.

ROBERT MITCHELL, JR., M.D.

JAMES M. MOSS, M.D.

W. T. THOMPSON, JR., M.D.

E. SPENCER WATKINS
Managing Editor
4205 Dover Road
Richmond, Virginia 23221

Annual Subscription—$2.00
Single Copies—25¢

TABLE OF CONTENTS

GUEST EDITORIAL
Medical Education and Application—*Stuart H. Harris, M.D.* 331

ORIGINAL ARTICLES
The Challenge of a Changing American Society—*John A. Logan, Jr., Ph.D.* 333
A Rational Approach to the Management of Acne Vulgaris—*E. Randolph Trice, M.D.* 338
Patients' Attitudes Toward Psychiatric Consultations in the General Hospital—*M. L. Hale, M.D.*, and *H. S. Abram, M.D.* 342
Reconstruction after Total Glossectomy and Subtotal Mandibulectomy—*J. Michael Bestler, M.D.*, and *James M. Toomey, M.D.* 348
Use of 50 mm. x 50 mm. Glass Plates in Pathology—*M. Shannon Allen, Jr., M.D.* 353
The Changing Environment of Medical Practice—Part II 356
Coronado—*John P. Lynch, M.D.* 361

CLINICOPATHOLOGICAL CONFERENCE
Congestive Failure after Correction of Dissecting Aneurysm 365

DIAGNOSTIC LABORATORY MEDICINE
An Evaluation of the Serological Diagnosis of Rocky Mountain Spotted Fever at M.C.V.—*H. P. Dalton, Ph.D.*, and *M. J. Allison, Ph.D.* 374

PUBLIC HEALTH
Quarantine and/or Enforced Isolation for Tuberculosis in Virginia 376

MENTAL HEALTH
Working Concepts of Personality Development—*Benjamin Winsten, Ph.D.* 378

MISCELLANEOUS
The Medical Assistant Is an Important Key to Public Relations in the Doctor's Office—*Lonie Kanak* 383

EDITORIAL
The Dilemma of Nursing—*Christian V. Cimmino, M.D.* 384
The Isolated Patient and Public Relations—*Harry J. Warthen, M.D.* 386

NEWS 388

OBITUARY 390

The MONTHLY is not responsible for the opinions and statements of its contributors.
All advertisements are accepted subject to the approval of the Editorial Board.

Second Class Postage paid at Richmond, Virginia.

INDEX TO ADVERTISERS—Page 64

In peptic ulcer... antacid therapy with a new benefit

CONTAINS A BALANCED COMBINATION OF THE MOST WIDELY USED ANTACIDS— FOR RAPID NEUTRALIZATION. PLUS SIMETHICONE— TO CONTROL THE FACTOR WHICH ANTACIDS ALONE CANNOT INFLUENCE.

Mylanta®

- In Mylanta, aluminum and magnesium hydroxides are balanced to minimize the chance of constipation or laxation and still achieve rapid acid neutralization and pain relief.
- The positive action of simethicone helps relieve the painful gas symptoms which often accompany the peptic ulcer syndrome.
- The nonfatiguing flavor and smooth, nongritty consistency of tablets and liquid encourage continued patient cooperation during long-term therapy.

Composition: Each Mylanta chewable tablet or teaspoonful (5 ml.) of liquid contains: magnesium hydroxide, 200 mg.; aluminum hydroxide, dried gel, 200 mg.; simethicone, 20 mg. **Dosage:** one or two tablets, well chewed or allowed to dissolve in the mouth, or one or two teaspoonfuls of liquid to be taken between meals and at bedtime.

The Stuart Company, Pasadena, California
Division of Atlas Chemical Industries, Inc.

OFFICERS AND COUNCILORS OF THE MEDICAL SOCIETY OF VIRGINIA 1966-67

President—K. K. Wallace, M.D., Norfolk
President-Elect—Thomas W. Murrell, Jr., M.D., Richmond
Past-President—Alexander McCausland, M.D., Roanoke
Vice-Presidents—Hugh G. Stokes, M.D., Williamsburg
Francis H. McGovern, M.D., Danville
James M. Moss, M.D., Alexandria
Executive Secretary-Treasurer—Robert I. Howard, Richmond
Speaker of the House—W. Callier Salley, M.D., Norfolk
Vice-Speaker—Thomas S. Edwards, M.D., Charlottesville

COUNCILORS

F. Ashton Carmines, M.D., Newport News
William S. Hotchkiss, M.D., Norfolk
William R. Hill, M.D., Richmond
William Grossmann, M.D., Petersburg
W. Nash Thompson, M.D., Stuart
Harry B. Stone, M.D., Roanoke
Dennis P. McCarty, M.D., Front Royal
W. D. Liddle, M.D., Fredericksburg
W. W. Walton, M.D., Pulaski
Carl P. Parker, M.D., Falls Church

DELEGATES AND ALTERNATES TO THE AMERICAN MEDICAL ASSOCIATION

Delegates
1966-67
W. Linwood Ball, M.D., Richmond
Allen Barker, M.D., Roanoke
1967-68
W. Callier Salley, M.D., Norfolk

Alternates
1966-67
Alexander McCausland, M.D., Roanoke
Russell Buxton, M.D., Newport News
1967-68
Richard E. Palmer, M.D., Alexandria

Vacation trip....

Motion sickness?

This time it'll be different. Emetrol taken before the trip begins will usually prevent nausea and vomiting. Emetrol is effective and safe...most helpful where safety is most important. It acts locally—not systemically.

WILLIAM H. RORER, INC.
Fort Washington, Pa.

Emetrol®
phosphorated carbohydrate solution
emesis control

This Emetrol advertisement will appear in the following medical journals
American Jl. of Diseases of Children
Jl. of Pediatrics
New York State Jl. of Med.
California Medicine
Illinois Med. Jl.
State Journal Group—33 Journals

raldrate

(SYRUP OF CHLORAL HYDRATE)

A palatable chloral hydrate syrup
containing 10 grains in each teaspoonful.

J. and V.

JONES and VAUGHAN
Richmond 26, Virginia

DISABILITY INCOME INSURANCE

REASONS WHY

3

If you are disabled by sickness or accident and unable to work, your income stops.

Where do you get the money . . . .

. . **that you normally spend on food?**

. . **that you normally spend on shelter?**

. . **that it takes to maintain your office?**

There is no question how your income will continue if you enroll in the DISABILITY INCOME PLAN which is sponsored and recommended by THE MEDICAL SOCIETY OF VIRGINIA.

With these outstanding features:

✓ Benefits paid directly to you. You spend the money any way you want;

✓ This plan is yours until age 75; (Plan A or Plan B)

✓ Under Plan A—Benefits paid to age 65 for sickness—lifetime for accident.

As an example: If you were disabled at Age 50 it would be possible for you to collect $144,000.00 (15 years at $800.00 per month)—NOT 5 years. At younger ages the amount possible to collect is much greater.

Protect your earnings and ability to pay. Get complete details during the Open Enrollment Period—now in progress.

Mail to

David A. Dyer Insurance Agency
Medical Arts Building
Roanoke, Virginia 24011

Dave,

I have enough problems without having to worry about how I'll pay the rent, the grocery bills, or keep the office open if I'm disabled. Please rush to me, without obligation, all the facts on the Disability Income Program for physicians and surgeons, underwritten by Insurance Company of North America, Phila., Pa.

Name _____

Address _____
Street

_____
(City) (State) (Zip)

Underwritten by The Insurance Company of North America, Philadelphia, Pa.

when was your last check-up?

Have YOU failed to make certain that you're well protected from the high costs of accident and sickness? If so, your budget is in danger of shattering any day now.

THE MEDICAL SOCIETY OF VIRGINIA has just the thing to relieve your anxieties about possible severe financial loss from accident or sickness:

- **Professional OVERHEAD Expense** to pay those fixed office expenses for you while you can't practice . . . and keep your office open!
- **"Catastrophic" HOSPITAL-NURSE Expenses** to meet those unexpected high costs from serious accident or sickness disability!

Both Plans go to work immediately, protecting your budget with their LOW-COST, BROAD COVERAGE ingredients.

Call us today—collect. Find out why The Medical Society of Virginia has selected these sensible Insurance Plans as the best available to its Members. We'll send you more information. No obligation, of course.

(But, plenty of smart financial advice!)

ADMINISTRATOR: David A. Dyer
Medical Arts Building,
Roanoke, Virginia 24011
Phone: 344-5000

Both Plans underwritten by:

AMERICAN CASUALTY COMPANY
OF READING, PENNSYLVANIA • 19603

Where
Doctors
Get Away
From It All
Without Going Far

WHAT other Virginia resort offers so many amenities for so few guests? Never a crowd—only 57 rooms, for country-estate atmosphere. . . Old Mill Room for candlelight dining in actual historic grist mill . . . King James Room for select meetings, private parties . . . Choice rooms have fireplace, private balcony, hand-hewn beams, mountain view, handcrafted furnishings.

New challenging short golf course opening April 1967 . . . All weather tennis courts . . . Lighted putting green . . . Pool . . . Two lakes for fishing . . . Riding, 18-hole golf arranged . . . Footpaths for strolling . . . Sauna . . . Private club (short memberships) on premises.

THE BOAR'S HEAD INN

CHARLOTTESVILLE, VIRGINIA

For reservations, brochure, phone 296-2181

11:47 pm

11:53 pm

12:06 am

The meaningful pause. The energy it gives. The bright little lift. Coca-Cola with its never too sweet taste, refreshes best. Helps people meet the stress of the busy hours. This is why we say things go better with Coke

TRADE-MARK ®

Look how many ways

Thorazine®

brand of

chlorpromazine

can help

	Tranquilizer	Potentiator	Antiemetic
Agitation	●		
Alcoholism	●		●
Anxiety	●		
Cancer patients	●	●	●
Severe neurodermatitis	●		
Drug addiction withdrawal symptoms	●		●
Emotional disturbances (moderate to severe)	●		
Nausea & vomiting	●		●
Neurological disorders	●		
Obstetrics	●	●	●
Pain	●	●	●
Pediatrics	●	●	●
Porphyria	●	●	
Psychiatric disorders	●		
Hiccups—refractory	●		
Senile agitation	●		
Surgery	●	●	●
Tetanus	●	●	

'Thorazine' is useful as a specific adjuvant in the above named conditions.

The following is a brief precautionary statement. Before prescribing, the physician should be familiar with the complete prescribing information in SK&F literature or *PDR*. *Contraindications:* Comatose states or the presence of large amounts of C.N.S. depressants. *Precautions:* Potentiation of C.N.S. depressants may occur (reduce dosage of C.N.S. depressants when used concomitantly). Antiemetic effect may mask other conditions. Possibility of drowsiness should be borne in mind for patients who drive cars, etc. In pregnancy, use only when necessary to the welfare of the patient. *Side Effects:* Occasionally transitory drowsiness; dry mouth; nasal congestion; constipation; amenorrhea; mild fever; hypotensive effects, sometimes severe with I.M. administration; epinephrine effects may be reversed; dermatological reactions; parkinsonism-like symptoms on high dosage (in rare instances, may persist); weight gain; miosis; lactation and moderate breast engorgement (in females on high dosages); and less frequently cholestatic jaundice. Side effects occurring rarely include: mydriasis; agranulocytosis; skin pigmentation, lenticular and corneal deposits (after prolonged substantial dosages).

For a comprehensive presentation of 'Thorazine' prescribing information and side effects reported with phenothiazine derivatives, please refer to SK&F literature or *PDR*.

Smith Kline & French Laboratories SK&F

when he just can't sleep

Tuinal®

One-Half Sodium Amobarbital and
One-Half Sodium Secobarbital
supplied in ¾, 1½, and 3-grain Pulvules®

'uinal helps wakeful patients fall asleep fast, stay sleep all night.

ndications: Tuinal, comprised of equal parts of Seconal® odium (sodium secobarbital, Lilly) and Amytal® Sodium ;odium amobarbital, Lilly), is indicated for prompt and ıoderately long-acting hypnosis. Not suitable for con-nuous daytime sedation.

'ontraindications: Barbiturates should not be adminis-ered to anyone with a history of porphyria, nor should ıey be given in the presence of uncontrolled pain, be-ause excitement may result.

Varning: May be habit-forming.

recautions: Tuinal should be used cautiously in patients with decreased liver function, since prolongation of effect may occur.

Adverse Reactions: Idiosyncrasy, such as excitement, hangover, or pain, may appear. Hypersensitivity reactions occur in some patients, especially in those with asthma, urticaria, or angioneurotic edema.

Dosage: 1½ to 3 grains at bedtime.

Additional information available to physicians upon request.
Eli Lilly and Company • Indianapolis, Indiana 46206

Lilly

700695

Fishing fever can land him in deep water...

One of a series that has been published by Peoples Drug Stores in the daily papers to keep the public better informed on matters of health.

It may be YOU that gets fished out of the water. And it's really not just a funny idea. It's a rule of safety. Standing up to cast, especially in smaller boats, is one of the more dangerous of broken safety rules. Knowing and following the rules for safety around the water is very important. So go ahead . . . have your fishing fun . . . but play it safe. Always keep a first aid kit handy, and a flashlight, just in case. Check your first aid and safety equipment now, and stock up at your nearby Peoples Drug Store. From a roll of adhesive tape to a critical prescription, Peoples is here to serve you. Seven Peoples Drug Stores are open 24 hours a day. See the Yellow Pages for the Peoples Drug Store nearest you. You will always be served courteously, efficiently and professionally.

PEOPLES
PRESCRIPTION DRUG STORES

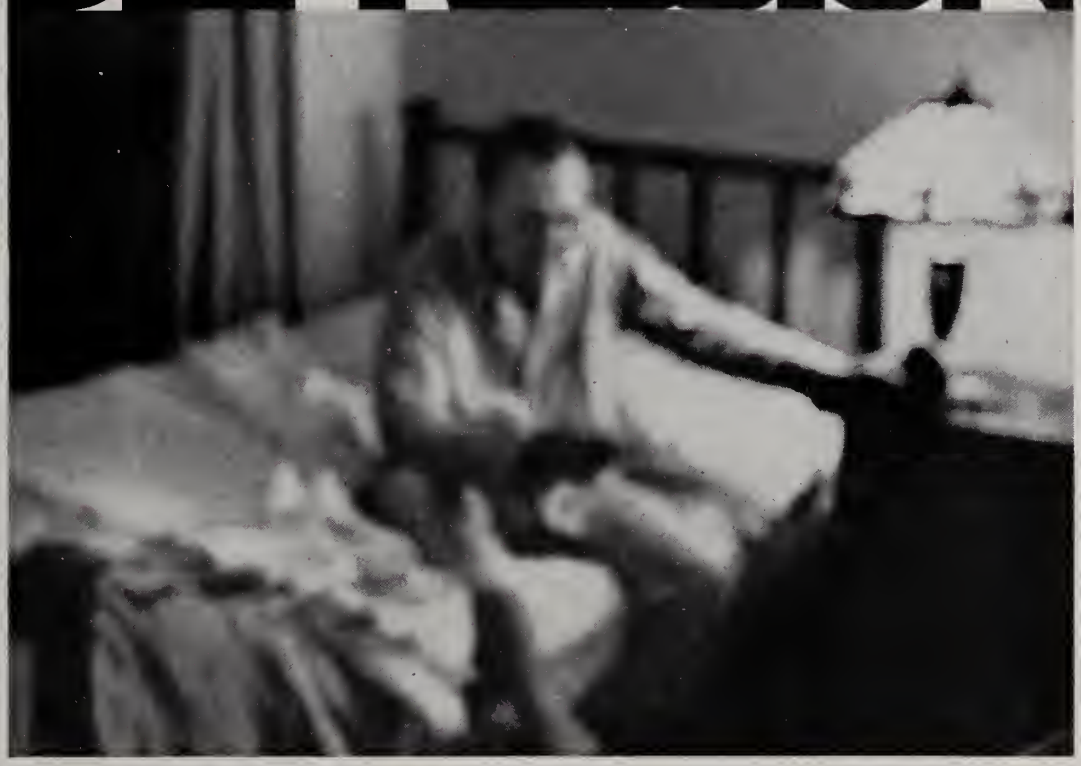
ALL PEOPLES DRUG STORES FILLED OVER 7 MILLION PRESCRIPTIONS IN 1965 . . . A MEASURE OF THE TRUST PEOPLE HAVE IN PEOPLES.

Trying for the one that got away can make a "fall" guy out of even the most careful fisherman. He knows the safety rules, but sometimes enthusiasm for the sporting game can lead to carelessness. Every physician has seen examples of an outdoor adventure that became an outdoor tragedy. We believe in preventive safety, just as you do, Doctor. That's why we try to remind people of the importance of playing it safe in *all* matters relating to health. Peoples Drug Stores will always be happy to support you and your efforts in every possible way.

PEOPLES®
PRESCRIPTION DRUG STORES

ALL PEOPLES DRUG STORES FILLED OVER 7 MILLION PRESCRIPTIONS IN 1966. A MEASURE OF THE TRUST PEOPLE HAVE IN PEOPLES.

DEPRESSION



NORPRAMIN®
(desipramine hydrochloride)

ANTIDEPRESSANT FOR RAPID IMPROVEMENT

At the recommended dosage level —initially, 150 mg. per day— gratifying remission of the signs and symptoms of depression typically begins in 2-5 days. Its specificity for depression, rapidity of action and usually mild side effects are significant reasons for prescribing NORPRAMIN (desipramine hydrochloride) in depression of any type . . . any degree of severity.

A few patients, sensitive to central nervous system stimulants may become restless as depression is lifted—in such cases dosage may be reduced or a tranquilizer added.

IN BRIEF:

INDICATIONS: In depression of any kind —neurotic and psychotic depressive reactions; manic-depressive or involutional psychotic reactions.

CONTRAINDICATIONS: Glaucoma, urethral or ureteral spasm, recent myocardial infarction, severe coronary heart disease, epilepsy. Should not be given within two weeks of treatment with a monoamine oxidase inhibitor.

RELATIVE CONTRAINDICATIONS: (1) Patients with a history of paroxysmal tachycardia. (2) Patients receiving concomitant therapy with thyroid, anticholinergics or sympathomimetics may experience potentiation of effects of these drugs. (3) Safety in pregnancy has not been established.

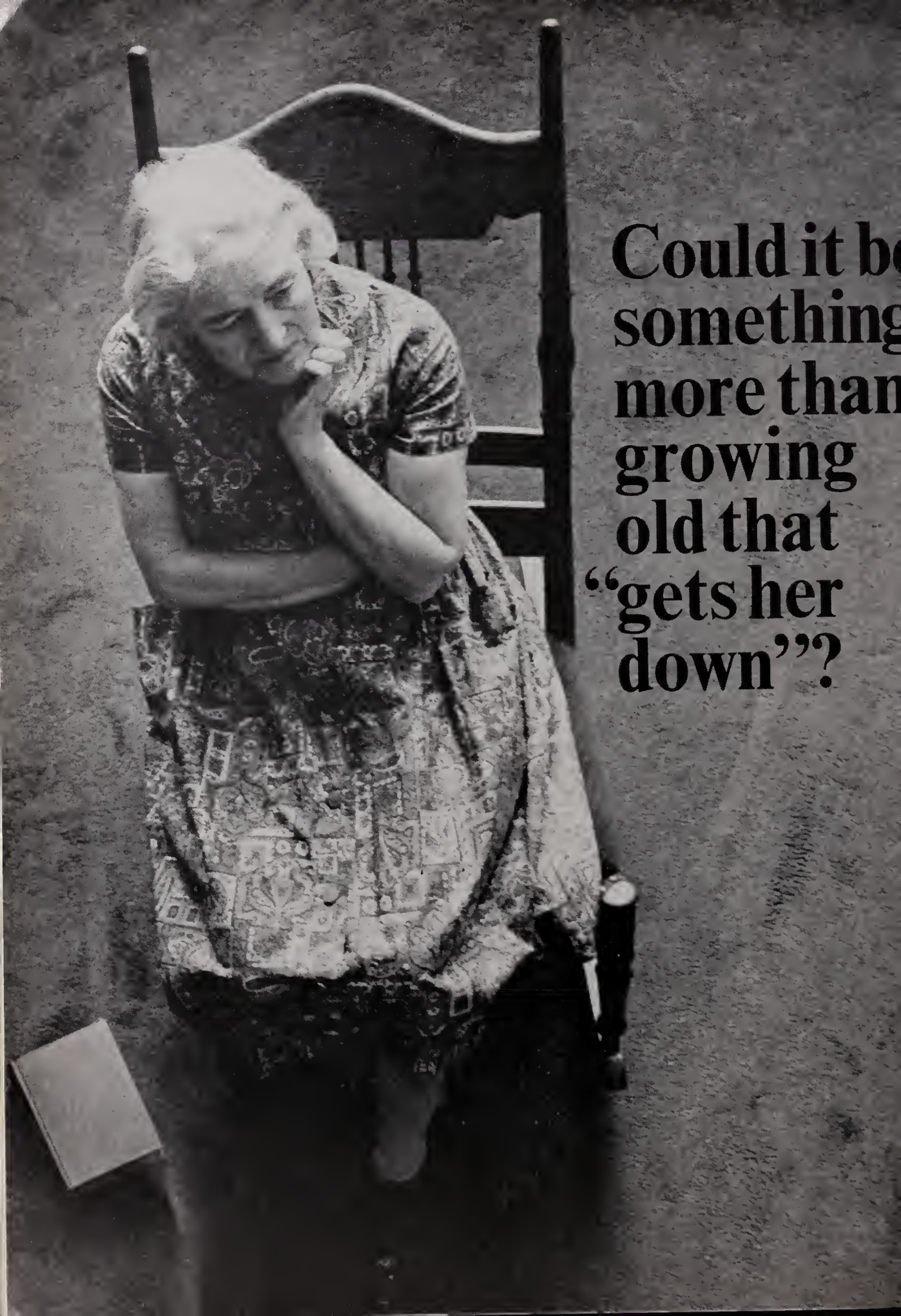
PRECAUTIONS: (1) Outpatient use of desipramine hydrochloride should not be substituted for hospitalization when risk of suicide or homicide is considered grave. (2) If serious adverse effects occur, reduce dosage or alter treatment. (3) In patients with manic-depressive illness a hypomanic state may be induced. (4) Discontinue drug as soon as possible prior to elective surgery.

ADVERSE EFFECTS: Side effects, usually mild, may include: dry mouth, constipation, dizziness, palpitation, delayed urination, "bad taste," sensory illusion, tinnitus, anxiety, agitation and stimulation, insomnia, sweating, drowsiness, headache, orthostatic hypotension, flushing, nausea, cramps, weakness, blurred vision and mydriasis, rash, tremor, allergy, agranulocytosis, altered liver function, ataxia, and extrapyramidal signs.

DOSAGE: Optimal results are obtained at a dosage of 50 mg., t.i.d. (150 mg./day). **SUPPLIED:** NORPRAMIN (desipramine hydrochloride) tablets of 25 mg., bottles of 50, 500 and 1000; and tablets of 50 mg., in bottles of 30, 250 and 1000.

LAKESIDE

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201


Could it be
something
more than
growing
old that
"gets her
down"?

Mild mood depression, poor appetite, little interest in the present or future. Does this picture mean that she's giving in to functional fatigue?

When functional fatigue is part of her problem, Alertonic can help counteract accompanying apathy and inertia. It helps lift mood, stimulate appetite, and establish new interest in daily life.

Pleasant-tasting Alertonic combines pipradrol hydrochloride—a gentle cerebral stimulant—with an excellent vitamin and mineral formula, in a satisfying 15% alcohol vehicle.

Especially in the aging patient, nothing fosters confidence and a sense of well-being better than your own personal warmth, understanding, and encouragement. Between visits, however, your prescription for Alertonic can help keep your patient from giving in to functional fatigue.

Adequate dosage is important: Prescribe Alertonic—one tablespoonful t.i.d., 30 minutes before meals ...tastes best chilled.

And for your patient's sake, prescribe Alertonic in the convenient, economical one-pint bottle.

Available only on prescription

Alertonic®

Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%, pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B_1) (10 MDR*), 10 mg.; riboflavin (vitamin B_2) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B_6), 1 mg.; niacinamide (5 MDR), 50 mg.; choline,† 100 mg.; inositol,† 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

*Multiple of adult Minimum Daily Requirement supplied.
†The need for these substances in human nutrition has not been established.

Indications: 1. Functional fatigue such as that often associated with: a depressing experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

Contraindications: As with other drugs with CNS stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive compulsive states.

Side effects: Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

Dosage: Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

Merrell

THE WM. S. MERRELL COMPANY
Division of Richardson-Merrell Inc.
Cincinnati, Ohio 45215

7-6378

Perhaps there have been times when you wanted to prescribe erythromycin and triple sulfas for little patients. Now you can—with a choice of two new fine-tasting pediatric forms.

New–Two Pediatric Forms of Erythromycin and Triple Sulfas

ERYTHROCIN®-SULFAS Chewable (Erythromycin ethyl succinate-trisulfapyrimidines chewable tablet)

In clinical trials[1,2], this orange-flavored tablet was given to 55 patients, aged four months to 18 years.

Diagnoses (multiple in some cases) represented a cross section of bacterial infections commonly seen in pediatric office practice.

Therapy was given from three to 12 days, with an average of six days.

Of the 55 patients, 30 were reported cured within 72 hours, while 22 showed partial recovery within the same time, and subsequent clinical cure.

A clinical cure rate of 94.5%

ERYTHROCIN®-SULFAS Granules (Erythromycin ethyl succinate-trisulfapyrimidines granules for oral suspension)

87 patients were treated[1,2]—all children, ages four months to 15 years.

The diagnoses were multiple in some cases and were chiefly bacterial infections of the respiratory tract.

Dosage was maintained from three to 10 days; average treatment was five days. All of the ill children accepted the orange-flavored suspension favorably.

53 were clinically cured within 72 hours, while 32 showed partial relief within the same time, and subsequent clinical cure.

701358

A clinical cure rate of 97.7%

1. Case Reports on File, Dept. Clin. Development, Abbott Laboratories.
2. Polley, R.F.L., Use of Erythromycin-Sulfas in Office Practice, Western Med., 7:177, July, 1966.

ABBOTT

Brief Summary on next page

ERYTHROCIN®-SULFAS
Brief Summary

Contraindications: Known sensitivity to erythromycin or sulfonamides. Because of the possibility of kernicterus with sulfonamides, do not use in pregnancy at term, premature or newborn infants.

Warnings: As with other forms of sulfonamide therapy, carefully evaluate patients with liver or kidney damage, urinary obstruction, or blood dyscrasia. Deaths have been reported from hypersensitivity reactions and blood dyscrasias following use of sulfonamides. Perform blood counts and liver and kidney function tests if used repeatedly at close intervals or for long periods.

Precautions, Side Effects: Occasionally mild abdominal discomfort, nausea or vomiting may occur with erythromycin, generally controlled by reduction of dosage. Mild allergic reactions (such as urticaria and other skin rashes) may occur. Serious allergic reactions have been extremely infrequent. Use sulfonamides with caution in patients with a history of allergy. Assure adequate fluid intake to prevent crystalluria and institute alkali therapy if indicated. If overgrowth of nonsusceptible organisms occurs, withdraw the drug and institute appropriate treatment. If a patient should show signs of hypersensitivity, appropriate countermeasures (e.g. epinephrine, steriods, etc.) should be administered and the drug withdrawn.

Adverse Reactions: Sulfonamide therapy may be associated with headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Side effects due to erythromycin are infrequent, but occasional abdominal discomfort, nausea, or vomiting, urticaria and other skin rashes may occur.

Supplied: The Granules for Oral Suspension come in bottles of 60 ml. and 150 ml. The Chewable tablets are in bottles of 50. Each 5-ml. teaspoonful of reconstituted Granules or each Chewable tablet provides erythromycin ethyl succinate equivalent to 125 mg. of erythromycin activity and 167 mg. of each of sulfadiazine, sulfamerazine and sulfamethazine.

ABBOTT

701358

removes the mental blur

that clouds vision

SOLFOTON®

Each tablet or capsule contains

PHENOBARBITAL . . . . . 16 mg.
(Warning: may be habit forming)
BENSULFOID® (See P D R) . . . . . 65 mg.
Precaution: same as 16 mg. of phenobarbital

Constructive Therapy

A Solfoton tablet or capsule at 6 hour intervals maintains sedation at the threshold of calmness, sustaining a mental climate for purposeful living.

Literature and clinical samples sent upon request.

FEDERAL LAW PROHIBITS DISPENSING WITHOUT PRESCRIPTION

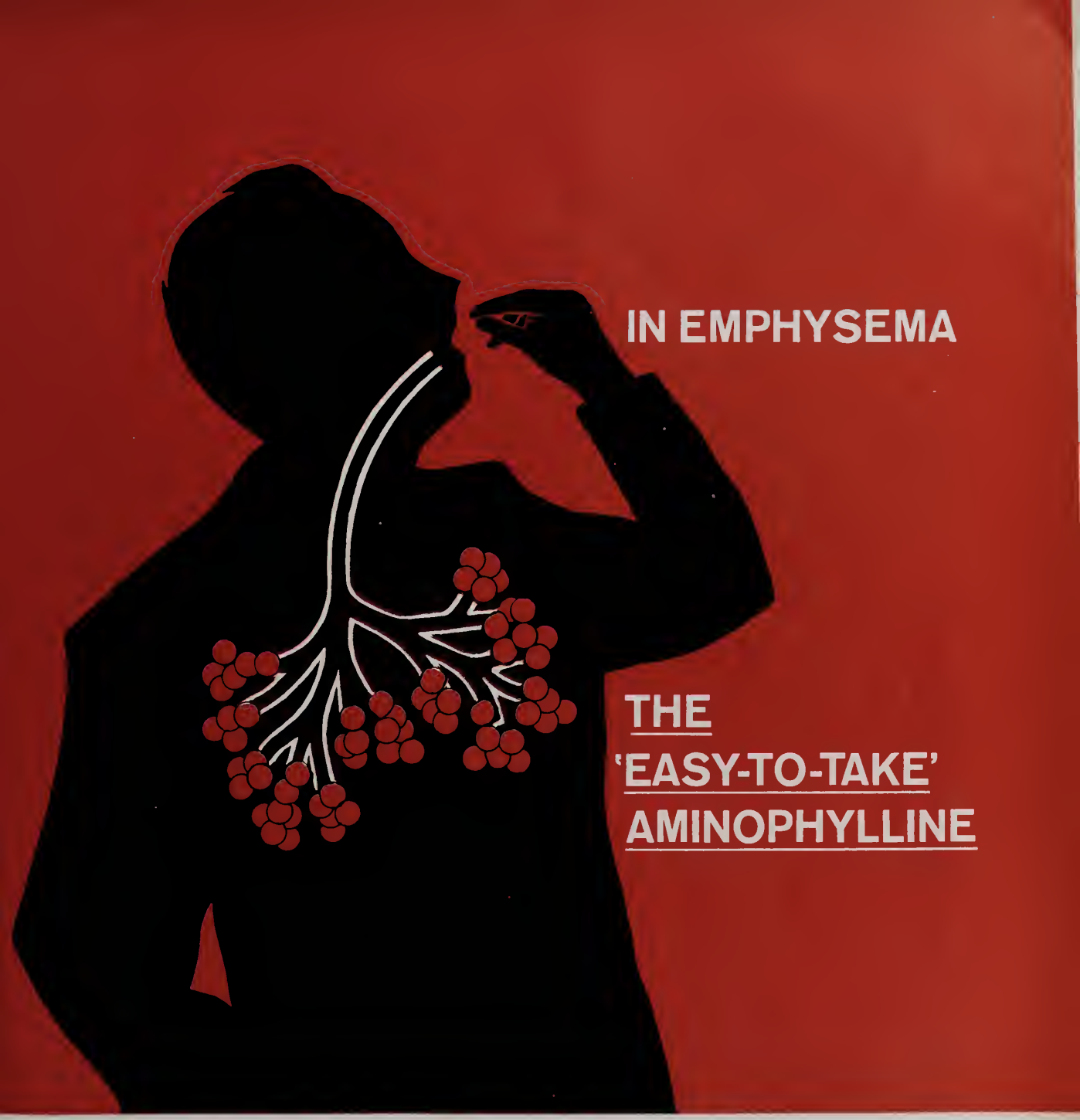
AVAILABLE

Solfoton *(yellow, uncoated tablets "P")*
100s, 500s, 5000s

Solfoton Capsules *(yellow and brown)*
100s, 500s, 1000s

Solfoton S/C *(sugar-coated beige tablets)*
100s, 500s, 4000s

WM. P. POYTHRESS & CO., INC.
RICHMOND, VIRGINIA 23217
Manufacturers of ethical pharmaceuticals since 1856



Aminophylline dura-tabs®

prolonged-medication tablets 4½ gr. (0.3 Gm.)

Precautions: Use with caution in patients with poor renal function as a decreased rate of excretion may lead to accumulation and untoward reactions. Gastric irritation may occasionally be observed in certain patients sensitive to oral aminophylline.

Dosage: Adults, 1 to 2 Aminophylline Dura-Tabs each 8 or 12 hours, with food.

RARELY UPSET THE STOMACH

Oral aminophylline needn't disturb the stomach—nor a good night's sleep. Patients breathe easier all day, sleep better all night, as each Aminophylline Dura-Tab dose provides effective therapeutic activity for up to 12 hours. And unlike conventional tablets, AMINOPHYLLINE DURA-TABS seldom cause gastric distress. The special Dura-Tab process allows the gradual absorption of the medication from the intestinal tract with only a small fraction of the dose released in the stomach.

WYNN Pharmaceuticals, Inc., Phila., Pa. 19132 • Manufacturers of QUINAGLUTE® DURA-TABS®
(Quinidine Gluconate 5 gr.)

When eating fads of teens or tots Lead to a sudden case of "trots"

Parepectolin for quick relief of acute diarrhea
...soothes colicky pain with paregoric*
...consolidates fluid stools with pectin
...adsorbs irritants with kaolin,
and protects intestinal mucosa

In children, Parepectolin may be used to control diarrhea promptly and prevent dehydration, until etiology has been determined. In some cases, Parepectolin may be all the therapy necessary.

Each fluid ounce of creamy white suspension contains:
*Paregoric (equivalent) ..... (1.0 dram) 3.7 ml.
Contains opium (¼ grain) 15 mg. per fluid ounce.
warning: may be habit forming
Pectin ..... (2½ grains) 162 mg.
Kaolin (specially purified) .... (85 grains) 5.5 Gm.
(alcohol 0.69%)
Usual Children's Dose: One or two teaspoonfuls three times daily.

WILLIAM H. RORER, INC.
Fort Washington, Pa.

Tandearil®
oxyphenbutazone

Tandearil in Painful Shoulder

Therapeutic Effects: Stiffness and pain may diminish within 2 days, and full mobility may be restored within a week. These effects are obtained with oxyphenbutazone alone or combined with physiotherapy or local hormonal injections. The drug is usually well tolerated and does not affect pituitary-adrenal function or immune response.

Contraindications: Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently.

Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

Precautions: Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage. Make regular blood counts. Discontinue the drug and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

Adverse Reactions: The most common are nausea, edema and drug rash. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

Dosage in Painful Shoulder: 600 mg. daily in divided doses for 2 to 3 days; 300 mg. daily thereafter. Usual duration of therapy: 2 to 7 days.

Availability: Tablets of 100 mg. 6562-VI(B)R

For complete details, please refer to full prescribing information.

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York

Geigy

Tandearil®
oxyphenbutazone

helps osteoarthritic joints move again

3 out of 4 osteoarthritics completely or markedly improved

Sperling, I.L.: 3 Years' Experience with Oxyphenbutazone in the Treatment of Rheumatic Disorders, Applied Therapeutics 6:117, 1964.

76.9% of 407 patients

Watts, T.W., Jr.: Treatment of Rheumatoid Disorders with Oxyphenbutazone, Clin. Med. 73:65, 1966.

84.6% of 39 patients

Please see adjoining page for brief prescribing summary

TA-4919 PC

Why these 7 patients with moderate to severe anxiety may respond better to Mellaril

1. The agitated patient.
Anxiety—particularly that beyond the range of minor tranquilizers—frequently is expressed as gross motor restlessness, fidgetiness and purposeless movements, and may erupt into aggressive behavior. Mellaril is almost a specific for those patients whose anxiety follows such a pattern.

2. The psychosomatic patient.
The family physician is rarely given the diagnostic luxury of a classic, textbook "anxiety state." Most often he must probe for anxiety masked by a functional disorder—or which exacerbates a somatic problem. Double-blind evaluations have demonstrated that Mellaril can be a significant adjunct in the treatment of such patients.

3. The patient under situational stress.
Mellaril helps the patient deal with stresses of everyday life. Nonhabituating, it can be given for extended periods of time. It does not "separate" the patient from practical problems and pressures, does not induce euphoria or a fuzziness which can compromise the ability to cope with realities. Rather, it helps the patient move more competently in his daily world by eliminating useless tension, by allowing him to conserve emotional resources and energies, and to direct them against the problems really worth worrying about.

4. The menopausal patient.
The woman who sees change of life as the end of useful life requires support from both family and family physician. Whether the psychological impact of menopause is directly related to hormonal changes, or merely coincidental, is debatable, but estrogenic therapy is frequently inadequate. Mellaril is a useful aid for these patients and, alone, or in combination with reduced estrogen dosage, will help ease the menopausal misery.

5. The previously hospitalized psychiatric patient.
Such a patient may still require the type of medication he has been accustomed to, but because he is no longer in a controlled setting the acceptable level of adverse reactions must be lower. In such circumstances Mellaril is perhaps the drug of choice.

6. The agitated geriatric.
Tranquilizer therapy in the elderly patient always involves special (or at least accentuated) problems: the possibility of drug-induced ataxia, hypotension or depression, for example, assumes an additional significance. These reactions have rarely been observed in geriatric patients treated with Mellaril.

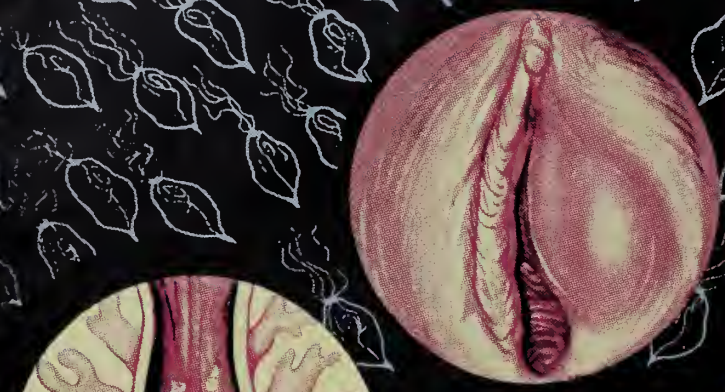
7. The constantly returning patient.
The anxiety patient who has not responded to a minor tranquilizer is not very likely to benefit from your minor tranquilizer of second choice. A major tranquilizer, such as Mellaril, may be indicated in such patients.

Contraindications: Severely depressed or comatose states from any cause, and in association with or following MAO inhibitors; severe hypertensive or hypotensive heart disease.
Precautions: Hypersensitivity reactions (e.g., leukopenia, agranulocytosis) and convulsive seizures are infrequent. Pigmentary retinopathy has been observed where doses in excess of those recommended were used for long periods of time. May potentiate central nervous system depressants, atropine, and phosphorus insecticides. Where complete mental alertness is required, administer the drug cautiously and increase dosage gradually. In addition, orthostatic hypotension (especially in female patients) has been observed. Epinephrine should be avoided in treatment of drug-induced hypotension.
Side Effects: Pseudoparkinsonism and other extrapyramidal disorders are infrequent; drowsiness, especially in high doses early in treatment, may occur; nocturnal confusion, dryness of the mouth, nasal stuffiness, headache, peripheral edema, lactation, galactorrhea, and inhibition of ejaculation are noted on occasion; photosensitivity and other allergic skin reactions may occur but are extremely rare.
Before prescribing, see package insert for full product information.

in moderate to severe anxiety, 25 mg. t.i.d.

Mellaril®
(thioridazine)

SANDOZ



Bartholin's gland

Periurethral glands

Cervical glands

Flagyl®

brand of

metronidazole

Seminal vesicles

Prostate gland

Bladder

Destroys Trichomonads Wherever They Are

Flagyl seeks out the sites where trichomonads hide. Only a systemic agent can. Flagyl does, selectively and effectively.

Flagyl destroys trichomonads in the inner crypts, glands and cavities of the genitourinary tract in both women and men. Consequently, Flagyl is capable not only of curing trichomoniasis in women but also of preventing reinfection.

Correctly used, with due attention to repeat courses of treatment for resistant, deep-seated invasion and to the presumption of reinfection from male consorts, Flagyl has repeatedly produced up to 100 per cent cure in large series of patients.

When the diagnosis of trichomoniasis is positive, Flagyl is positive.

Dosage and Administration — In *women:* one 250-mg. oral tablet three times daily for ten days. A vaginal insert of 500 mg. is available for local therapy when desired. When used, one vaginal insert should be placed high in the vaginal vault each day for ten days; concurrently two oral tablets should be taken daily.
In *men* in whom trichomonads have been demonstrated: one 250-mg. oral tablet twice daily for ten days.

Contraindications — Pregnancy; disease of the central nervous system; evidence or history of blood dyscrasia.

Precaution—Complete blood cell counts should be made before, during and after therapy, especially if a second course is necessary.

Side Effects—Infrequent and minor side effects include nausea, metallic taste, furry tongue and headache. Other effects, all reported in an incidence of less than 1 per cent, are diarrhea, dizziness, vaginal dryness and burning, dry mouth, rash, urticaria, gastritis, drowsiness, insomnia, pruritus, sore tongue, darkened urine, anorexia, vomiting, epigastric distress, dysuria, depression, vertigo, incoordination, ataxia, abdominal cramping, constipation, stomatitis, numbness of an extremity, joint pains, confusion, irritability, weakness, flushing, cystitis, pelvic pressure, dyspareunia, fever, polyuria, incontinence, decreased libido, nasal congestion, proctitis and pyuria. Elimination of trichomonads may aggravate candidiasis.

SEARLE *Research in the Service of Medicine*

Did Dorothy Larson show you her ankles in private? Now she shows them in public.

Your office examination would have confirmed that Mrs. Larson was up to her knees in edema. Her heart was beginning to fail. And her ankles had disappeared under an inch of salty water.

Along with digitalis, you might have prescribed Hygroton. To get rid of the edema. And to keep it from coming back. And you prescribe Hygroton the same way you usually prescribe digitalis: just once a day.

Tablet for tablet, Hygroton is just about the most effective diuretic going. And it costs a fraction of what Mrs. Larson would have to spend for equivalent therapy with short-acting diuretics.

In fact, Hygroton is an awfully nice way to treat the Mrs. Larsons in your practice. Just tell them you can get their ankles back at half price.

Indications: Hypertension and many types of edema involving retention of salt and water.
Contraindications: Hypersensitivity and most cases of severe renal or hepatic disease.

Warning: With administration of enteric-coated potassium supplements, the possibility of small bowel lesions should be kept in mind.
Precautions: Reduce dosage of concomitant antihypertensive agents by at least one-half. Discontinue if the BUN rises or liver dysfunction is aggravated. Electrolyte imbalance and potassium depletion may occur; take special care in cirrhosis or severe ischemic heart disease.

patients receiving corticosteroids, ACTH, or digi-
Salt restriction is not recommended.
ffects: Dizziness, weakness, nausea, vomiting,
glycemia, hyperuricemia, headache, muscle cramps,
postural hypotension, constipation, leukopenia, thrombocytopenia, agranulocytosis, impotence, dysuria, transient myopia, skin reactions, including urticaria and purpura, epigastric pain, or G.I. symptoms after prolonged administration.

Average Dosage: One tablet (100 mg.) with breakfast daily or every other day.
Availability: Tablets of 100 mg. 6524-V(B)
For full details, see prescribing information.

...so you might say Hygroton is good public relations for Mrs. Larson

Because it gets her *out* in public in the first place. At 43, Mrs. Larson worries about appearances and swollen ankles don't help.

But Hygroton's cosmetic effect is only half the story. Hygroton and digitalis therapy helps her get back in the swing of things. Gives her a second wind. Gets rid of the extra pillow she needed for a good night's sleep. Now she even likes to take walks. Just for the fun of it!

When her troubles began, Mrs. Larson thought they were the signs of the change of life. It's a change all right, but one you can treat. And you can count on Hygroton to help keep her in public instead of in the hospital.

See preceding pages for brief summary of prescribing information.

Geigy

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York

DIURESIS

MERCUHYDRIN®
(meralluride injection)

Twenty years ago the publication of "A System for the Routine Treatment of the Failing Heart"[1] established a schedule of diuretic therapy as a primary factor in the treatment of acute congestive failure. With emphasis upon daily injections of Mercuhydrin (meralluride injection) until dry weight was obtained, Gold, et al. achieved a 40% increase in improvement, in ⅓ the time, over other methods then current. Today, most medical texts continue to recommend parenteral mercurials in acute congestive failure when prompt diuresis is indicated.

Recently Modell[2] has stated: "The mercurial diuretics are the injectable diuretics of choice since they are the most potent as well as the most dependable. Their toxicity is not an important consideration either by comparison with other potent diuretics or in relation to the seriousness of the conditions in which they provide such excellent relief."

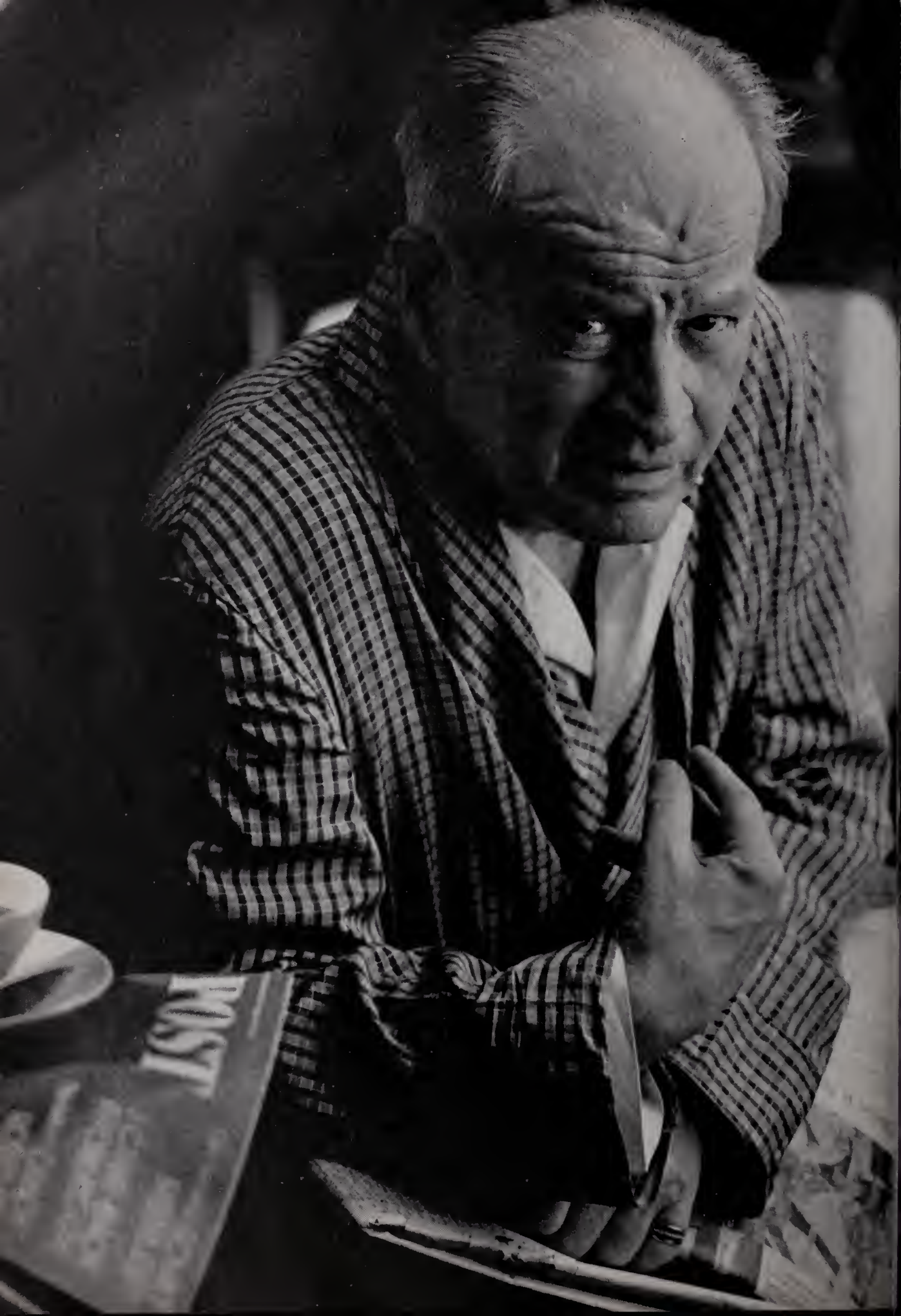
LAKESIDE

IN BRIEF

Mercuhydrin is indicated in edema of cardiac or hepatic origin and in the nephrotic syndrome; it is contraindicated in acute nephritis and in anuric or oliguric states. *The usual adult dose is one to two cc. daily or every other day until "dry weight" is obtained.* Sensitivity is rare but small initial doses are advised to minimize potential reactions; vertigo, fever, and rash have occurred. Overdosage may produce electrolyte depletion, muscle cramps, and G. I. reactions. Supplied: 1 cc. and 2 cc. ampuls in boxes of 12, 25 and 100; 10 cc. rubber capped, multiple-dose vials (intramuscular or subcutaneous use only) in boxes of 6 and 100.

1. Gold, Harry, *et al.: A System for the Routine Treatment of the Failing Heart,* The American Journal of Medicine, Vol. III, No. 6:665-692 (Dec.) 1956.
2. Modell, Walter: *Drugs of Choice 1966-1967,* p. 97, 1966.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201


POST

Posed by professional model

I'm supposed to get up and do things?

With my heart?

It's entirely natural—and may even be desirable—for the cardiovascular patient to be somewhat anxious about himself.

But when anxiety leads to unreasonable self-imposed limitations and restrictions . . . when it aggravates cardiovascular symptoms . . . when it interferes with restful sleep, measures to help alleviate the anxiety are probably in order.

One measure, of course, is reassurance. Another, adjunctive measure, is EQUANIL (meprobamate).

Over a decade of experience has shown that EQUANIL (meprobamate) is generally well tolerated as well as effective. Side effects are usually limited to transient drowsiness; serious, therapy-interrupting side effects are rare.

Cautions: Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use may result in dependence or habituation in susceptible persons—as ex-addicts, alcoholics, severe psychoneurotics. After prolonged high dosage, drug should be withdrawn gradually to avoid possibly severe withdrawal reactions including epileptiform seizures. Side effects include drowsiness and, rarely, allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute non-thrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. Meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Warn patients of possible reduced alcohol tolerance. Should drowsiness, ataxia, or visual disturbances occur, dose should be reduced. If symptoms persist, patients should not operate vehicles or dangerous machinery. A few cases of leukopenia, usually transient, have been reported following prolonged dosage. Other blood dyscrasias—aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia—have occurred rarely, almost always in the presence of known toxic agents. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. Prescribe very cautiously for patients with suicidal tendencies. Suicidal attempts should be treated with immediate gastric lavage and appropriate supportive therapy.

Contraindications: History of sensitivity to meprobamate.

Composition: Tablets, 200 mg. and 400 mg. meprobamate. Coated Tablets, WYSEALS® EQUANIL (meprobamate) 400 mg. Continuous-Release Capsules, EQUANIL L-A (meprobamate) 400 mg.

American Hospital Formulary Service Category No. 28:16.08

A quality controlled product of
Wyeth Laboratories Philadelphia, Pa.

to help relieve anxiety and tension occurring alone or secondary to organic disease

Equanil®
(meprobamate)

Wyeth®
SERVICE TO MEDICINE

There are 45,600* undetected diabetics in Virginia

Most of these are probably among patients over 40; the overweight; relatives of diabetics, and mothers of large babies. By the time polyphagia, polyuria, polydipsia, pruritus or other overt symptoms of diabetes appear, damage may have been done that could have been minimized. DEXTROSTIX® gives you a reliable blood-glucose estimate in 60 seconds.

Why Wait?

*Based on Statistical Report, U.S. Dept. Commerce, ed. 86, and Fisher, G. F., and Vavra, H. M.: Pub. Health Rep. 80:961 (Nov.) 1965.

Note: DEXTROSTIX is not meant to replace the more precise analytical laboratory procedures such as needed in glucose tolerance testing.

AMES COMPANY, Division Miles Laboratories, Inc., Elkhart, Indiana 46514 428R67

Ames

Here Are The 4 Most Important Reasons Why

5,500 Virginia Decision Makers Have Selected Blue Cross And Blue Shield

1. COVERAGE IS REALISTIC. Benefits are designed to meet today's rising hospital and medical costs. (Last year hospital costs in Virginia rose 20%.)

2. EMPLOYEE PREFERENCE. Companies find it easier to recruit and keep valuable employees where Blue Cross and Blue Shield are offered.

3. REDUCE OVERHEAD. Companies save because paperwork is eliminated. There are are no claim forms to fill out. No benefit checks to issue. Blue Cross and Blue Shield take care of all this.

4. VERSATILITY. Companies can choose from many combinations of benefits—length of hospital stay, hospital services, medical-surgical benefits and major medical coverage.

Companies with as few as five employees can qualify for low-cost group rates. Ask your local Blue Cross and Blue Shield representative about setting up a group for your company. He specializes in health care coverage. You will receive expert advice in putting together the right program that gives more coverage per dollar.

BLUE CROSS BLUE SHIELD

4010 West Broad Street Richmond, Virginia 23230

for
quick relief
that lasts
and lasts
Co-Pyronil®
Pyrrobutamine Compound
1 PINT (473 cc.)
M-87
SUSPENSION
CO-PYRONIL
PYRROBUTAMINE
COMPOUND
100
No. 336
PULVULES
CO-
PYRONIL
PYRROBUTAMINE
COMPOUND
000
No. 342
PULVULES
CO-PYRONIL
PYRROBUTAMINE
COMPOUND
Pediatric
Lilly
Additional information available to physicians upon request. ELI LILLY AND COMPANY, INDIANAPOLIS, INDIANA 46206.
700807

The Virginia
MEDICAL MONTHLY

June, 1967
Vol. 94, No. 6
Whole No. 1381

Guest Editorial . . . .

Medical Education and Application

MEDICAL PRACTICE affords an opportunity to evaluate the benefits of medical education. The many hours of dissection, laboratory, and classroom are wasted unless in the end they add up to the materials necessary to meet and answer the needs of sick patients. It is obviously at the bedside, in the office, or in the operating room that medical education must meet the test of application. It is here that "one sees only what he looks for" and, sometimes unfortunately, "one looks for only what he knows." We must depend to a large degree upon our medical training for the knowledge and awareness to solve the many problems that a patient and his illness present.

The emphasis on research and specialization in today's medical school undoubtedly produces a physician better trained in depth to understand and treat a patient's disease than ever before. Whether this same physician is as well trained to treat the total patient or to recognize and treat a disease he has not specialized in is another question. It may even be that today's physician is actually less interested in the total patient and less able to treat many of his illnesses than the physician of yesteryear. Many of the critics of medicine feel that this is true and it is obvious that many of the foremost medical educators are hesitant and in doubt about this question. A close look must be taken at the patient's complaint that today's physician is "cold" and "lacks understanding" and the physician's retort that the patient of today is "too demanding".

Progress has swept away both the "horse and buggy" doctor and the "horse and buggy" patient. In their place stands a far better trained physician whose time is more in demand by a patient who must also meet the demands of his busier, more stressful environment. In such a situation progress has produced almost as many problems as it has solved, but, for better or worse, "the old order changeth". Physician and patient alike must adapt to and live with these changes. The patient must realize that the price he pays for more successful management of disease is a busier, more scientifically oriented physician. The physician in turn must attempt to individualize and "humanize" the skills and techniques of

modern medicine. Some changes of emphasis in medical education may improve the situation.

Renewed interest in training the "primary" or "family physician" would do much to close the gap between the patient and his physician. Far more of the average patient's complaints can be handled by a competent family physician than many medical educators, seeing only referred patients with the more advanced or unusual diseases, realize. The family physician is in the perfect position to diagnose and treat disease early. He can also manage illness while the patient still is in the familiar surroundings of home. Such a policy serves to lessen a patient's anxiety and lessen his expenses, another large area of patient complaint. Training the necessary number of family physicians to provide each patient with a personal physician he knows, respects, and confides in would do much to heal the breach in present day doctor-patient relations. It is heartening that many medical schools and the American Academy of General Practice are aware of this fact.

Another vital necessity is to keep the specialist broad. Long, austere training programs may produce personalities without the "common touch". An underpaid, overworked resident may become an excellent specialist, but he may also have little interest in or knowledge of diseases outside his speciality and little understanding of his patient's problems. Worse still, he may work poorly with the medical team of referring physician, nursing staff, and paramedical personnel. A specialist interested in medicine as a whole and the patient as a person is the desired product of any training program. He should be equally at home in the community or a medical center for medicine must go "where the action is".

American medical education is solidly built on research and investigation in depth and this must continue in order to produce the tools necessary to conquer disease. Equal emphasis on clinical medicine is needed to bring the fruits of research to the front line of therapy. There will always be the chronically dissastisfied patient and the carping critic, but our ears must not be closed to criticism. Family physician, specialist, and medical educator must work with mutual respect on a medical team dedicated to patient care and understanding. No facet of medicine is more important than the concern and responsibility of the individual physician for his patient. Medical application will always be the test of medical education.

Stuart H. Harris, M.D.

1911 Thomson Drive
Lynchburg, Virginia

The Challenge of a Changing American Society

JOHN A. LOGAN, JR., Ph.D.
Hollins, Virginia

I AM GREATLY HONORED to be asked to address this distinguished gathering. What I propose to do this evening is to address myself to the challenge of change in contemporary American society.

It is hardly necessary to say that we live in a difficult and perplexing age. Every generation in modern history has had its problems, to be sure, and as it grew older has felt a sense of foreboding about the direction events were taking. But in this mid-twentieth century the situation is different, not only in degree but in kind, from what it was in 1866 or 1766. It is different not only because the rate of social and technological change has so vastly accelerated, but because we are faced in the world with an unprecedented welter of conflicting systems of values, of contending social and moral philosophies, which threaten to leave us without guidelines or points of reference in making important choices. Always before there has been an underlying consensus in the Western World which kept the range of choices within reasonable bounds, but now all certainty threatens to collapse when faced with an infinite number of alternatives.

To the extent that your professional careers involve the methodology of science and technology, you are relatively free of this sort of confusion. You face difficult problems, but they can be solved without frameworks of principles and practices which are accepted the world over. Science is one of the few branches of learning with a common language. But the moment you go beyond these relatively manageable professional concerns, much of this compactness and certitude dissolves. As physicians, you are faced with a multitude of human problems; as parents, all of us find ourselves on the slippery ground of today's relativistic standards of behavior among the young; as citizens of the United States, we are confronted with a spectrum of national problems unparalleled in breadth and complexity.

Changes in our physical environment brought on by advancing technology are fairly easy to comprehend, even if they are not always easy to cope with, but the Industrial Revolution has brought with it disturbing changes in the realm of ideas which we can sense, but which it is more difficult to resolve into workable sets of principles for the management of human affairs. From about the year 1400 up to the First World War the dominant social values were those of the emerging and eventually triumphant middle class, the men of commerce and industry and the professions. Characteristically, these values assumed the rationality of man and of the physical universe, and they celebrated the virtues upon which Western industrial civilization and the American Dream were built—a regard for law and order, aversion to war as wasteful, the exaltation of thrift and efficiency as primary virtues, respect for private property and, above all, individualism. These values were both articles of faith and a program for action. Obviously they are still with us today, and still dominate the American scene, but they are everywhere subject to questioning and pervaded by doubts.

Much of the uneasiness which characterizes the intellectual life of the 20th century revolves about the fact that these old values have been undermined, but that no new consensus has been achieved to replace them, if indeed they are outmoded. Never before in human history, for example, have we been

---

Dr. Logan is President of Hollins College.

Delivered before the Roanoke Academy of Medicine, December 5, 1966.

faced with so many irreconcilable philosophies of government as in this century. How can there ever be any synthesis of such opposing doctrines as fascism or communism and representative democracy? How can we arrive at a workable idea of the nature and destiny of man amid the conflicting theories represented by, say, the Freudians and orthodox Christianity, Marxists and Existentialists? Is man a rational being possessed of freedom to choose good and evil as our democratic institutions assume? Or is he the creature of vast, impersonal social and economic forces as Marxian determinism argues? Is the dark underground of subconscious emotion a more powerful determinant of overt behavior than the reasoning mind? If so, what about trial by jury, or majority rule by free elections? The way we construct all of our social institutions rests on answers to these questions, and the world is deeply divided as to the direction we should take.

One might reasonably expect some help from our social scientists in this regard, but of recent years our sociologists and psychologists have retreated—one might almost say "escaped"—into a "scientism" and behind a screen of impenetrable jargon that makes their work less and less relevant to these burning questions. They have plunged deeper and deeper into empiricism, the collection of masses of observed data about particular, minute phenomena, so that in the words of one critic, they are "learning more and more about less and less", or simply documenting the obvious. Worst of all, there is little or no attempt at generalizing from these data, at constructing any theory of the nature of man. Occasionally these days papers in these fields fail even to offer conclusions, as if the raw data somehow spoke for themselves.

Something like this has been happening in the arts as well. The "realistic" novel or short story (and the most serious motion pictures, too) have in common a theme of frustration, inadequacy and guilt. The characters are caught in a trap of middle-class values. For the most part these impressions are conveyed by the "slice of life" technique —a segment of human experience, often the more degenerate the better, is presented without commentary, often without an implied point of view, and frequently without compassion. The message seems to be, "here is life; isn't it awful, but what would be better?" In painting and sculpture, abstractionism has reduced intellectual content by relying purely on color and form. As in literature, there is a tendency toward anti-rationalism and toward a reliance on sensual experience as somehow meaningful in itself, without any informing philosophy of life. If there is a philosophy, it appears more negative than positive. There is no affirmation of the value of human experience.

We can see these tendencies reflected on our campuses in the so-called "student revolt" which has concerned us recently. The young intellectuals who are leading this movement are true children of the twentieth century in the sense that they have placed activism above contemplation and have adopted irrational means to achieve their ends. They have a heightened sense of injustice, for which we must admire them, but the methods they have chosen to right the wrongs in our society—the weapons of social revolution and class warfare—are destructive of the very foundations of a free society. Being fanatics they abhor compromise, which is the essence of orderly government. Acting in the name of social justice, they are in actuality profoundly anti-social and nihilistic. If this tiny radical minority were to become the leaders of tomorrow, the Republic and its basic commitment to due process would be in grave danger.

So far I have been talking briefly about the realm of ideas, but the changes which modern science and technology are working in our physical and social environment present us with numberless challenges which are either already fully developed or can be anticipated in the near future. The over-

whelming fact of our time is the explosive growth in population and the concentration of these people in urban complexes. Whether or not something is done to check the headlong increase in population—and clearly something has to be done—in the next generation, there will be not only more people in the world than ever before, but their distribution by age groups will be sharply altered. There will be proportionately many more young people and old people, with the breadwinning age group supporting both like the narrow waist of an hourglass. The implications of this, with or without a welfare state, are just becoming apparent for education, for health services, for law enforcement, and for recreational needs.

Urbanization will happen no matter what, but the question of whether it is to be a blight or a blessing will depend on how quickly we can superimpose some degree of planning and foresight on this presently uncontrolled phenomenon. Neither our cities nor our suburbs are true communities at the moment. Choked by traffic, our cities are decaying at the center. They consist of homes of the very rich, the very poor and the unmarried, with large portions virtually unoccupied at night or on holidays. They contrast sharply with their many European counterparts which are genuine communities with green parks, bright fountains and buildings built to human scale. Of all our large cities, only Washington has this quality, partly because of the control which the National Fine Arts Commission has been able to exercise over planning and new building.

We are familiar with the urban problems of transportation, water supply and pollution above and below ground. The new suburbia has sprawled over the countryside almost before we knew it, and we are just now beginning to reckon the social costs of this phenomenon, with its dreary rows of houses, occupied by people who hope to move upward to something better, with its voracious demands for tax dollars, and its lack of focus for community life. Much of the sense of alienation and isolation suffered by Americans these days can be traced to the impersonality, the rootlessness and impermanence of this way of living.

In the world now taking shape, man will come to have nearly complete control of his physical environment, and he can make of it a paradise if he catches the vision of what might be, if he keeps a due balance between the works of man and of nature.

We are standing on the threshold of an era in which man will have the unlimited power of the atom at his disposal for works of peace as well as war, when he will be able to live not only on land, but beneath the sea and in outer space. Every kind of repetitive labor can, and probably will be, performed not by men, but by machines electronically guided by programs fed to other machines. There will be in the next half century material abundance in this country such as mankind has never seen, so that the emphasis will shift almost completely away from problems of production to problems of consumption. Not only "blue collar" jobs, but also "white collar" jobs will be in large part taken over by machines, so that hours of work will be steadily reduced while the number of jobs may actually diminish. The proportion of elderly persons in our population will mount, as will pressures for delaying the age when a young person enters the working force.

All of this obviously poses problems for a society built on a psychology of scarcity, with an ethical system founded on such principles as the Puritan gospel of work and thrift or Christian doctrines of charity and resignation. The relative affluence we now enjoy has already created lesions in the fabric of our society as our problems become less physical and more psychological. We are in great danger of becoming morally rudderless, unless we can supply new ethical directives for altered conditions of life, and unless we devise socially useful outlets for the energies and creative and competitive

urges which were once channeled into the struggle for physical survival.

A direct outgrowth of these imperatives has been our growing concern about the problem of violence in human society. This is hardly a new concern, but it has been given added impetus in our day by the growth of urban populations and the consequent worldwide rise in crime rates, and by technological changes in military weaponry which bring us face to face with the possibility that mankind may—by accident or design—bring on the holocaust that will extinguish all life on earth.

Much serious scholarly attention is being focussed on the question of whether man has an innate "killer instinct", or whether his aggressive tendencies are fostered by a system of social values which could be altered so as to remove the premium now placed on the use of force under certain circumstances. Our system of government was built on the assumption that reason could be made to prevail over rapacious self-interest, but the theory and practice of fascism, for example, exalted the use of force and subjugation by fear to the level of a cosmic principle. However, modern writers on political theory in this country and other nations of the Western world have increasingly in the last twenty-five years, inclined toward theories of international relations and domestic politics based on so-called power analysis, which assumes that force is the ultimate sanction for political behavior at every level of social organization. Much of this represents a healthy breath of realism to counteract an excessively legalistic and moralistic view of human behavior, but what concerns some of us is that these theories should come to be considered a description of the way things *ought* to be, or must inevitably be, rather than simply an analysis of how they temporarily do work. In studies of our society like C. Wright Mills' *Power Elite*, which has been so influential with leaders of the civil rights movement and the student activists of the New Left, it can be argued that the author never even remotely understood the real forces that govern American society, so that whatever virtue there may be in the power theory itself, its individual interpreters can be as far from the truth about human nature as Rousseau with his "noble savage" or the utopian socialists of the nineteenth century.

In any case the weight of scholarly opinion nowadays among anthropologists and psychologists seems to place the blame for social violence more on environment than on heredity. That is to say that men do not have an innate desire to kill their fellow men, but that society encourages them to prey on strangers outside their immediate group. According to Konrad Lorenz, of all the animals who kill, only rats and men kill their own kind indiscriminately. But there have been human societies in which *all* violence is discouraged, and it can be argued that this can be arranged on a worldwide scale, leaving aside, of course, the problem of psychopathic behavior.

On this latter score, we must all give attention to the problem of responsibility in the mass media. There is already clinical evidence of the unfortunate effects on emotionally disturbed persons of detailed descriptions of crime and brutality in books, magazines, motion pictures and television. Frederic Wertham, a psychiatrist, made a study of comic books in this connection, and experiments with children exposed to violent scenes on television and then placed in situations of stress, showed that they tended to act out the very scenes they had just witnessed when working off their aggressions. And a couple of weeks ago I had the incredible experience of reading in the conservative *New York Times* a vivid and detailed account of a mass murder in Arizona which contained in the second paragraph a statement by the killer that his crime had been suggested to him by press accounts of the University of Texas mass shootings a few weeks before. Surely further study and perhaps legislation is needed in this whole area of what, in the public interest, is fit to print.

Time will not permit me to discuss the

abolition of war to any extent, but suffice it to say that with the advent of nuclear weapons, and the certain proliferation of their ownership outside the present restricted group of nations, it is absolutely essential that they be effectively outlawed or controlled. Every effort must be made to bring the settlement of international disputes out of the realm of force and into the area of judicial and administrative action, as has been done in domestic societies. We are at the point in history where "six-gun law" can no longer be tolerated in the society of nations. We are a long way from achieving this millenium, however, and until all the peoples of the world are persuaded that war must end, force will remain the ultimate recourse.

In closing, let me say that much of the anti-war activity in this country and abroad at present is not very helpful toward this end. It is profoundly disturbing and anomalous to find the opponents of international violence resorting to domestic violence to achieve their objectives. The forcible restraint of the Secretary of Defense at Harvard is a case in point, as well as the draft card riots and the physical delays of troop transports. In fact, the whole wave of "direct action" and civil disturbances of the past few years represents a backward step along the road to a greater reliance on due process of law, and promise to do more harm than good. Fanaticism breeds fanaticism, and violence begets violence, in the midst of which the voice of reason is stilled, and the values for which this country stands are trampled and lost. The greatest task before us today is to demonstrate the possibility of reform and accommodation within the framework of peaceful political and social change, or else the world will be engulfed in an age of barbarism from which there may be no final return.

Hollins College
Hollins, Virginia

Tetanus Immunization

Here's today's health tip from the American Medical Association—with the advent of Spring, most of us are beginning to get out of doors again. A word to the wise about minor accidents, cuts and scratches—*make sure your tetanus shot is up-to-date.* Tetanus-producing spores lie dormant in the soil of your garden, the dirt in your garage, and the dust inside your house. These tiny spores can infect you through the smallest wound —a pin scratch, a bee sting, or a minor cut. Once symptoms appear, the outlook is grim, even with the best treatment. *Your best long-range guarantee against tetanus from a common garden scratch, animal bite, or small cut is immunization with tetanus toxoid.* A booster is needed every ten years and whenever you are injured.

A Rational Approach to the Management of Acne Vulgaris

E. RANDOLPH TRICE, M.D.
Richmond, Virginia

Acne vulgaris is one of the most common diseases affecting young people. Even mild to moderate degrees of acne may produce noticeable disfigurement of the skin and emotional problems in self-conscious adolescents and young adults. More severe cases result in alarming physical and psychic scarring. If rational therapy is available, it should be utilized in the management of these unfortunate patients.

THERE ARE MULTIPLE ETIOLOGICAL FACTORS involved in the development of acne, chief of which are *heredity* and *age*. There is a definite family tendency to acne and the age of onset is almost always pubertal or pre-pubertal. Unfortunately we cannot alter the heredity or age of the patient. Other etiological factors such as sebaceous activity, endocrine effects, diet, and infection may be altered.

Increased *sebaceous activity* as a causative factor in acne has been proved by measuring both the size and numbers of glands in patients with and without acne, and by measurement of sebaceous material on the surface of the skin of patients with and without acne. Furthermore, sebaceous activity is reduced by either superficial x-radiation or estrogenic hormones and results in improvement in the patients with acne. Experimentally androgenic hormones aggravate acne, and *estrogenic hormones* help the condition.

Diet is difficult to evaluate. There may be some substance in chocolate, cola syrup, and nuts that aggravate acne. Patients with acne notice this quite frequently. It is doubtful that fatty, greasy, or oily foods aggravate the condition. Avitaminosis A as a factor is unproved; however, the administration of large amounts of vitamin A is thought to prevent hyperkeratinization of the follicular orifice.

The presence of *bacteria* in pylosebaceous glands is quite regularly noted in histopathologic examination of even mild cases. Two organisms, the Corynebacterium acnes and the Staphylococcus albus have been isolated from lesions with great regularity. These two organisms, formally considered saprophytic, may actually play a pathogenic role in acne.

Pathogenesis

The exact pathogenesis of acne is not established but the following functional changes are known to occur in the pylosebaceous apparatus:

(1) Faulty *flow of sebum* resulting in increased amounts of sebaceous material on the skin;
(2) Faulty *keratinization* of the pylosebaceous opening resulting in plugging or comedone formation;

From the Division of Dermatology at the Medical College of Virginia.

Presented at the Annual Meeting of The Medical Society of Virginia, Williamsburg, November 6-9, 1966.

(3) *Inflammation* of the plugged pylosebaceous apparatus; and
(4) Bacterial invasion of the pylosebaceous apparatus resulting in *pustulation*.

Rational therapy might be designed to (1) remove excess sebum, (2) prevent or remove keratin plugs, (3) combat inflammation or (4) treat infection.

Treatment

Since therapy is somewhat dependent on the severity of acne, it is often useful to classify it according to degree of involvement starting with the milder form:

Grade I—consists of any number of *comedones,* usually on a shiny complexion with only rare inflamed lesions. This type may clear spontaneously or may progress to more severe forms. Generally, simple topical therapy is sufficient to control.

Grade II—*comedo-papular* type has inflamed papules, frequently in showers, in addition to comedones. Topical therapy is helpful and occasionally systemic measures are required.

Grade III—the *papulo-pustular* and pustular type is more generalized, deeper, and tends to produce scarring. It requires both topical and systemic therapy.

Grade IV—acne conglobata is a severe *pustular cystic* type. If not treated it leads to deep boggy masses, sinus tracts, and disfiguring scars. All forms of therapy may eventually be necessary to control this process.

Fig. 1. Grade I, Comedone Acne
Fig. 2. Grade II, Comedo-papular type
Fig. 3. Grade III, Papulo-pustular acne
Fig. 4. Grade IV, acne conglobata

Simple removal of excess sebum by soap and water may be helpful but the detergent

effect is short, perhaps lasting only 15 minutes. Longer acting detergents and sebulytics are incorporated into most *acne cleansers.* Various antiseptics such as hexachlorophen (pHisoHex) may be added. *Astringent cleansers* consisting of combinations of alcohol and acetone (Sebanil) are useful in Grade I and II acne.

Following cleansing of the skin, *keratolytic lotions* or creams should be used. Many contain sulphur alone (lotic alba or Secomat). Other substances are added for specific effect. Resorcinol increases the keratolytic effect (Sulforcin). Hydrocortisone diminishes the inflammatory element and sulfacetamide is added to control infection (Secomat S). Recently oxidizing agents have been combined with chlorhydroxyquinoline and sulfur to produce an effective keratolytic action over a prolonged period (Benoxyl).

Oral antimicrobial agents such as sulphonamides or antibiotics are often helpful and sometimes necessary in Grade III and IV acne. In mild to moderate cases, very modest doses are effective. Sulfadimethoxine (Madribon) may be given in b.i.d. or one a day doses. Maintenance doses of one tablet twice a week may control pustule formation. A similar dose of tetracyline or other wide spectrum antibiotic is equally effective.

Administration of autogenous *vaccine* or commercial staphylococcus toxoid is often helpful in the treatment of Grade III or IV acne.

Hormone therapy is being used with increased frequency. The estrogens (Stilbestrol, Premarin) in cyclic doses are most helpful in the treatment of young adult females who complain of premenstrual "flare-up", and have been used for many years. The newer estrogen-progesterone combinations are even more effective. Norethynodrel-mestanol (Enovid) daily for twenty days each month in the usual cyclic manner is effective in the treatment of all forms of acne. However, moral objections by parents to use the "pregnancy pill" has limited its usefulness. Nevertheless, Enovid type therapy is probably the most significant recent advance in acne therapy.

Radiation therapy, though not new, is still one of the most useful measures in the management of acne of the moderate to severe type. The peeling effect of ultraviolet light is helpful in all stages. X-radiation is probably the most effective single modality in the therapy of acne, especially of severe Grade II or Grade III.

Acne surgery is performed at each office visit in moderate to severe grades. This includes expression of comedones, milia extraction and drainage of pustules and cysts.

A recently developed adjuvant in the management of acne is *intra-lesional injection* of cortico-steroids. Small amounts of cortico-steroid may be injected into chronic papular lesions and result in disappearance of the lesions within a few days.

Oral or parenteral use of steroids enjoys some popularity. However, prolonged use of the steroids may aggravate the condition.

The application of *peeling paste* or *peeling solutions* containing keratolytic agents in high concentration may be applied as an office procedure to remove excess sebum and to produce exfoliation of the skin. Strong peeling solutions produce effects equivalent to a superficial *dermabrasion.*

Dermabrasion, though losing its former popularity, is still effective in removing certain types of superficial scars.

Acne *diets* are probably overemphasized and their effectiveness unproved. Patients are asked to eliminate chocolate, cola beverages, and nuts and avoid excessive amounts of iodine. Generally, however, an adequate diet associated with proper amount of exercise and rest are encouraged.

Vitamin A, 50,000 units daily may be helpful in mild Grade I type of acne, but is usually discontinued in favor of more active therapy in the more severe grades.

Summary

The etiology and pathogenesis of acne is briefly reviewed.

Acne vulgaris is classified into four grades of severity as a guide of therapy.

Various modalities of treatment are discussed. Topical astringent cleansers and lotions are applicable to all cases. Systemic antimicrobial therapy is most helpful in moderate to severe grades.

X-radiation therapy remains one of the best single modalities available in the management of acne.

More recent developments in therapy include the use of intralesional steroid injections and administration of estrogen-progesterone agents in cyclic doses.

References

1. Bear, R. L. and Witten, V. H.: Acne Vulgaris, Yearbook of Dermatology, 1959-1960 (Chicago, Yearbook Publishers 1960).
2. Pocchi, P. E. and Strauss, J. S.: Sebum Production in Males with Acne. J.I.D. 43: 383-388, 1964.
3. Strauss, J. S. and Kligman, A. H.: Effects of X-Rays on Sebaceous Glands of the Human Face: Radiation Therapy of Acne. J.I.D. 33, 347-354, 1959.
4. James, A. P. R.: The Management of Acne Vulgaris: Ohio State M. J. 57: 784-786, 1961.
5. Pillsbury, D. M.: Persistent Acne. Consultant 6: 40-43, 1966.
6. Pace, W. E.: A Benzoyl Peroxide Sulfur Cream for Acne Vulgaris. Canadian Med. Assoc. J. 93: 252-254, 1965.
7. Witkowski, J. A., Simons, H. L.: Objective Evaluation of Dimethylchlortetracycline in the Treatment of Acne. J.A.M.A. 196: 111-114.

215 Medical Arts Building
Richmond, Virginia

Health Education Goals

Health education is an important part of the school curriculum, and efforts to expand and improve it with an emphasis on a balanced program should continue, the Joint Committee on Health Problems in Education said at a recent meeting.

The Joint Committee is made up of representatives of the National Education Association and the American Medical Association.

A course in health education should be a certification requirement for all prospective teachers and school administrators, a Committee resolution said. The resolution asked that school districts offer health education training programs for teachers and administrators now in service.

There is a continuing need for a venereal disease education program in the schools, the Committee said. The group commended the VD-eradication efforts of the AMA and the U.S. Public Health Service. It also called for continuing education to stress the dangers of misusing, and the advantages of correctly using, drugs.

A resolution concerned with the development of programs to implement educational legislation involving a health component suggested that physicians, dentists, nurses, and allied health personnel be included in the planning as well as the execution of such programs. Both the local medical societies and the local educational authorities are urged to assume responsibility for seeking cooperative efforts.

School administrators who "through ingenuity and innovation" provide appropriate time in the school schedule for health education were commended by the Committee. A resolution also called for further experimentation in curriculum development for health education.

Patients' Attitudes Toward Psychiatric Consultations in the General Hospital

M. L. HALE, M.D.
Orange, Texas
H. S. ABRAM, M.D.
Charlottesville, Virginia

Adequate preparation for psychiatric consultation increases the patient's chance of benefiting from the referral.

THE ROLE OF A PSYCHIATRIC consultation service in the general hospital has been a subject of interest for at least the past fifteen years.[1] Recently however a survey of psychiatric training centers revealed that residents were poorly trained in this important field and that only a small proportion (4%)[2] of all training centers were carrying out research on the effects of psychiatric consultations. This report based on a questionnaire study attempts to evaluate certain aspects of the psychiatric consultation, namely:

1. The patient's attitude toward psychiatric consultation.
2. The patient's preparation for the consultation.
3. The effect of the above two factors on the outcome of the consultation.

Method

The charts of 88 patients referred for psychiatric consultation from the ward and semi-private service of the University of Virginia Hospital during the period July through September of 1964 were reviewed and a series of questionnaires sent to each patient.

The questionnaires consisted of two pages with twelve questions. After each question there are five answers marked *a* through *e* with a space before each answer. The patient was asked to check the answer most appropriate for him. There was a statement at the top of the page to the effect that it was important for the patient to express true feelings whether favorable or unfavorable. The two page questionnaire ended with a request for suggestions as to how the service could be changed to improve patient care. At the bottom of the second page a line for the signature was marked "optional".

Each mimeographed questionnaire was accompanied by an individually typed letter explaining the questionnaire and what we hoped to accomplish. It was emphasized that the questionnaire would not become a part of the patient's record, that it was confidential, and that a signature was not necessary.

Each letter and questionnaire was accompanied by a stamped addressed envelope to facilitate the return of the questionnaires. Both the self-addressed envelope and the envelope addressed to the patient were unmarked.

One month after the first questionnaire, if it had not been returned, a follow-up letter was sent. The letter told of our need to gather the information asked for in the questionnaire, our willingness to send another if the first had been lost or misplaced and stressed the information would be of

From the Department of Neurology and Psychiatry, University of Virginia Hospital.

value in teaching and training future physicians.

At the end of the second month, if there was no return, a third letter was mailed. It contained another mimeographed letter, a copy of the questionnaire and a self-addressed envelope.

In addition to the contacts outlined above two patients were seen in the hospital during the time which elapsed and were asked to return the questionnaire. Both agreed that they would but nothing further was heard from them. Six patients in the Charlottesville area were not heard from originally; two did not have telephones, three were tried by telephone without success, and one answered the questions over the telephone.

A sample of the questionnaire is included in Appendix A.

Findings

Of the 88 questionnaires sent to patients:

- 34 were answered and returned,
- 3 were returned unanswered,
- 4 were filled out by family or it was stated that the patient was incapable of filling in the answers,
- 5 had expired in the interim,
- 2 were returned by the Post Office as "address unknown".

This made a total of 48 individuals heard from on about for a percentage of 55. The 34 who answered represent 39% of the total number. The findings are summarized as follows:

1. How was the problem presented to you that you needed to see a psychiatrist? (100% answered)

- *18%* a. I knew myself that part of my problem was emotional and I wanted to see a psychiatrist.
- *26%* b. I was held that I had emotional problems and the purpose of the psychiatric consultation was explained to me.
- *0%* c. I was told I had emotional problems but the consultation was not explained.
- *18%* d. I was not told that I had any emotional problem, but was told that a psychiatrist would be in to see me.
- *30%* e. I was told nothing regarding the psychiatrist's visit.
- *8%* Other (people who marked two answers or wrote in an answer).

2. How did you feel about being told that a psychiatrist would be talking to you? (88% answered)

- *23%* a. Pleased
- *26%* b. Hopeful
- *30%* c. Indifferent
- *10%* d. Offended
- *7%* e. Angry
- *1%* Other

3. Did you derive any benefit from the talks with the psychiatrist? (100% answered)

- *24%* a. I benefited a great deal.
- *18%* b. I derived some benefit.
- *52%* c. I felt that I was neither better nor worse.
- *3%* d. I felt, that if anything, I was somewhat worse.
- *3%* e. I felt that I was definitely made worse.

4. On discharge was it recommended that you continue to see a psychiatrist? (100% answered)

- *3%* a. Psychiatric follow-up was discouraged.
- *24%* b. I was told that there probably was no need of psychiatric follow-up.
- *26%* c. No recommendation was made.
- *30%* d. I was told I might receive some benefit from psychiatric follow-up.
- *15%* e. It was strongly recommended that I see a psychiatrist.
- *2%* Other

5. Did you follow the recommendation?

27% a. I felt no need to follow the recommendation.

14% b. I thought about following the recommendation and did not get around to it.

5% c. I was undecided whether to follow the recommendation or not.

5% d. I followed the recommendation but later changed my mind.

41% e. I followed the recommendation explicitly.

8% Other

[Questions 6-9 not analyzed for this study because of insufficient data.]

10. Did you tell your immediate family that you had been seen by a psychiatrist? (91% answered)

55% a. I told them that I had emotional problems and that I had seen a psychiatrist.

6% b. I told them that I had emotional problems and had seen a "nerve" doctor.

0% c. I told them that I had emotional problems but did not say that I had seen a psychiatrist.

3% d. I did not tell them that I had emotional problems or that I had seen a psychiatrist.

19% e. I did not give them any information as to my difficulty.

16% Other

11. Has your attitude about psychiatry changed as a result of our seeing you?

26% a. I wanted to see a psychiatrist and still would want to.

7% b. I wanted to see a psychiatrist then, but not now.

29% c. I was indifferent to seeing a psychiatrist then, and still feel the same.

16% d. I did not want to see a psychiatrist then, but now I would be willing.

10% e. I did not want to see a psychiatrist then, and still would not want to see one.

12% Other

Suggestions and Criticisms from Patients

The majority of the patients who answered the questionnaire answered "no" or "none" to question 12 regarding whether they had any suggestions or criticisms of the service, or they left the space blank. Of the comments voiced by patients there were three categories: (1) preparation for the consultation, (2) explanation of the purposes of the consultation, and (3) feelings of the patient. They thought the purpose and mechanics of the consultation should be explained; one patient felt the individual patient should be asked if he wanted the consultation. Another patient thought the doctor should "explain things" and not make the patient feel as though she were "imagining" her complaints. One patient stated that she was discharged without being told anything; so she thought that her stay was of no real help. (Psychiatric follow-up had been recommended.) Another patient made the statement that she had been made to feel "as if I were mental".

The following is a quotation from one of the patients:

"There is widespread ignorance of mental illness in this area. But then I too was unaware all these years I needed help, but no doctor ever recommended it. Even so recent as spring 1964 I was a patient at Hospital, under Dr. A. He treated me for three weeks for arthritis and bursitis (left arm). For years he has treated me for back pain and other 'bone problems'. He finally dismissed my case when the pain became much worse after hospitalization. I asked 'what shall I do?', and all he replied was 'take aspirin or bufferin'; closed the door—no appointment—no suggestion to see another doctor. After several weeks of increasing helplessness and great pain my husband called and asked Dr. A. to refer me to a

doctor at the University Hospital, so I had an appointment to see Dr. B. I was in great pain the morning I saw him, but he barely looked at me, no examination or interview, and referred me to Dr. C. Without any interview he had me admitted to the hospital —July 2, 1964. I never saw Dr. B again nor Dr. C either, except once at the request of my husband. No one explained anything and I had no opportunity to talk. The medical intern was the only doctor really who examined me, but I was in constant pain and it seemed no one told me anything or helped me. I have always felt it fair for any doctor to explain the problem—the truth—so I could face reality and cooperate willingly. But it wasn't until Dr. D, the intern on psychiatry, came in daily to talk that I had any opportunity. But his first visit was a shock; I was not prepared for it and felt like saying 'But I'm not crazy—I know who I am.' I rejected his careful suggestion about possible change off the medical floor. I expected to go home and on the day of discharge I was dressed and packed to leave. Dr. D and another psychiatrist came by to talk to my husband and me to persuade me to enter Davis (the psychiatric ward). It was the blackest day of my life. I was terrified of the unknown and thought I was going to be locked up behind bars. I was terrified of the other patients and thought they might harm me when my back was turned." . . . .

Conclusions

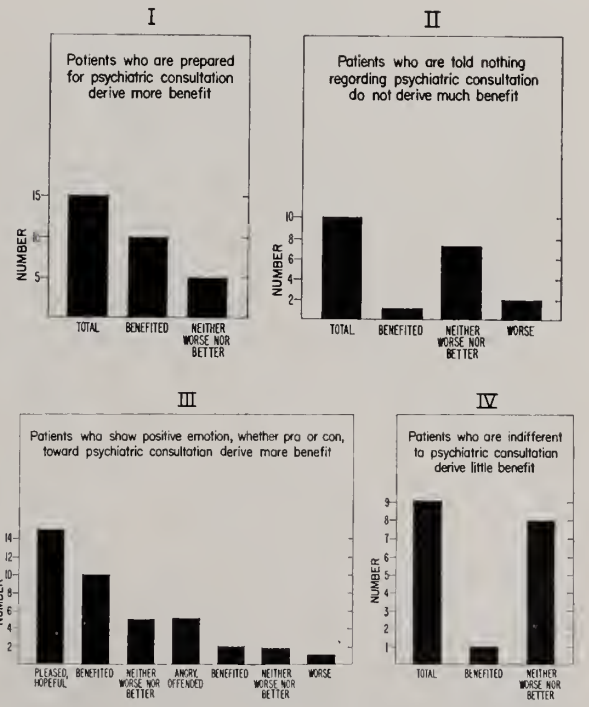
There are many factors in the patient questionnaires that can be correlated and analyzed. Two however are of high significance from a statistical viewpoint:

1. *Patients who are prepared for psychiatric consultation derive more benefit from the consultation.*

   Ten of the fifteen patients who were properly prepared for psychiatric consultation benefited as opposed to only one of the ten not properly prepared. The level of significance is at the .007 level (by the Fisher exact methods.*** These findings are summarized on graphs I and II.

2. *Patients who show distinctive ("pleased, hopeful, offended, angry" rather than "indifferent") emotion toward psychiatric consultations derive more benefit from them.*

   Of the twenty patients with distinctive emotion toward the consultation twelve benefited as opposed to only one of the nine who were indifferent. This finding is significant at the .02 level (by the Fisher exact method).*** These findings are summarized on graphs III and IV.



The conclusions of this study speak for themselves and therefore do not need much elaboration. Preparation of the patient for any consultation seems a courtesy not only to the patient but to the consultant. Yet it is often overlooked, perhaps more often before psychiatric referrals than before other specialties. Such an omission may be related to the stigma still associated with psychiatry and mental illness among some patients as well as physicians. But undoubt-

edly the patient will more readily accept a psychological explanation for his illness or its emotional aspect if his physician discusses the matter before rather than after the psychiatrist has visited. It forms an alliance among physician, patient, and psychiatrist indispensable for effective treatment. The second finding that distinctive emotions are associated with more positive results is also of interest. In essence the indifferent, perhaps covertly hostile and passive-resistant, patient does not respond favorably to psychiatric intervention. Clinically it is well known that emotion ("affect"), both negative and positive, are essential ingredients for working effectively with a patient psychotherapeutically.

Summary

This study reports the results of a questionnaire sent to 88 patients referred for psychiatric evaluation and treatment over a three month period in a general hospital. Two factors proved of high significance in the patient's response to the referral: adequate preparation prior to referral and the patient's reacting with distinctive emotions to the referral were associated with beneficial results.

Appendix A
Questionnaire

During your hospitalization at the University of Virginia Hospital in 1964, you were seen in consultation by the psychiatric service at the request of your physician. Please check the most appropriate answer for the following questions. It is important that you express true feelings, whether favorable or unfavorable. Thank you.

1) How was the problem presented to you that you needed to see a psychiatrist?
___ a. I knew myself that part of my problem was emotional and I wanted to see a psychiatrist.
___ b. I was told that I had emotional problems and the purpose of a psychiatric consultation was explained to me.
___ c. I was told that I had emotional problems but the consultation was not explained.
___ d. I was not told that I had any emotional problem, but was told that a psychiatrist would be in to see me.
___ e. I was told nothing regarding the psychiatrist's visit.

2) How did you feel about being told that a psychiatrist would be talking to you?
___ a. Pleased
___ b. Hopeful
___ c. Indifferent
___ d. Offended
___ e. Angry

3) Did you derive any benefit from the talks with the psychiatrist?
___ a. I benefited a great deal.
___ b. I derived some benefit.
___ c. I felt that I was neither better nor worse.
___ d. I felt, that if anything, I was somewhat worse.
___ e. I felt that I was definitely made worse.

4) On discharge was it recommended that you continue to see a psychiatrist?
___ a. Psychiatric follow-up was discouraged.
___ b. I was told that there probably was no need of psychiatric follow-up.
___ c. No recommendation was made.
___ d. I was told I might receive some benefit from psychiatric follow-up.
___ e. It was strongly recommended that I see a psychiatrist.

5) Did you follow that recommendation?
___ a. I felt no need to follow the recommendation.
___ b. I thought about following the recommendation and did not get around to it.
___ c. I was undecided whether to follow the recommendation or not.
___ d. I followed the recommendation but later changed my mind.
___ e. I followed the recommendation explicitly.

6) Are you having any symptoms or difficulty at the present time?
___ a. Severe symptoms
___ b. Mild symptoms
___ c. Occasional symptoms
___ d. Rarely have a complaint
___ e. No symptoms

If you have any symptoms, specify what.

7) Do you take any medication for nerves or nervousness at the present time?
___ a. Several times a day
___ b. Once daily
___ c. Occasionally
___ d. Rarely
___ e. None

If you do take medication, what is it?

8) Do you see a doctor in your locality?
___ a. Regularly—once a week or once a month
___ b. Between once a month and once in six months
___ c. No more than once in six months
___ d. No more than once a year
___ e. Never

9) Have you been readmitted to a hospital since you were discharged last year?
___ a. One admission
___ b. Two admissions
___ c. Three admisisons
___ d. More than three admissions
___ e. No admisisons

10) Did you tell your immediate family that you had been seen by a psychiatrist?
___ a. I told them that I had emotional problems and that I had seen a psychiatrist.
___ b. I told them that I had emotional problems and had seen a "nerve" doctor.
___ c. I told them I had emotional problems but did not say that I had seen a psychiatrist.
___ d. I did not tell them that I had emotional problems or that I had seen a psychiatrist.
___ e. I did not give them any information as to my difficulty.

11) Has your attitude about psychiatry changed as a result of our seeing you?
___ a. I wanted to see a psychiatrist and still would want to.
___ b. I wanted to see a psychiatrist then, but not now.
___ c. I was indifferent to seeing a psychiatrist and still feel the same.
___ d. I did not want to see a psychiatrist then, but now I would be willing.
___ e. I did not want to see a psychiatrist then, and still would not want to see one.

12) Do you have any suggestions as to how the psychiatric consultation service might be of more benefit in improving care of patients?

Signed_____
(Optional)

Bibliography

1. Lidz, T. and Fleck, S.: Integration of Medical and Psychiatric Methods and Objectives on a Medical Service. Psychosom. Med. 12: 103-107, 1950.
2. Mendel, W. M.: Psychiatric Consultation Education—1966. Am. J. Psychiat. 123: 150-155, 1966.

We are grateful to T. Lahey, Ed.D. and G. Pratt, Ph.D. for their aid with the statistics of this study.

University of Virginia Hospital
Charlottesville, Virginia

Air Pollution

Here's today's health tip from the American Medical Association—a popular entertainer recently commented he knew Spring was here because the smog has turned green. . . . Millions of Americans are living in cities and towns in which the air is polluted by all sorts of waste products. We hear more and more about this growing health menace, but little about what we can do to prevent it. As an individual, you *can* help to keep the air clean in your community. First, know your community's laws regulating burning of trash and leaves, and observe those laws. Keep your automobile engine properly tuned, and you'll help reduce the amount of unburned exhaust particles poured into the air. Secondly, learn about your community's laws concerning industrial and commercial smoke controls. If these rules aren't being enforced, you and your neighbors should ask some pointed questions *now* as to why smoke isn't properly regulated. It sounds like a little, but it can help a lot. As a citizen, you *can* help keep the air you breathe clean.

Reconstruction after Total Glossectomy and Subtotal Mandibulectomy

The Use of a Forehead Flap

J. MICHAEL BESTLER, M.D.
JAMES M. TOOMEY, M.D.
Martinsville, Virginia

Satisfactory results are obtained by using a forehead flap for palliative reconstruction of the mouth.

MASSIVE MALIGNANCIES of the tongue and recurrence or persistence of disease in a tongue remnant present a major problem in reconstruction if surgical resection is elected for palliation. (Fig. 1).

Fig. 1. Post-excisional defect in Case 3 demonstrating the absence of all structures below the palate except the superficial soft tissues.

Edgerton[1] in 1961 described a full forehead flap for reconstruction of palatal defects. McGregor[2] in 1963 described a similar hemi-forehead flap which he introduced into the oral cavity through a tunnel in the cheek for reconstruction of intra-oral defects less than total glossectomy.

We have used the entire forehead as a delayed bipedicled flap to reconstruct the floor of the mouth following total glossectomy and subtotal mandibulectomy on three occasions with satisfactory results.

Technique

In taking the forehead flap we have used the full width of forehead from eyebrow to hairline with corners squared laterally and superiorly. This has produced a bipedicled flap based on the superficial temporal artery of each side. We have delayed this flap three weeks. Penrose drains placed about each pedicle have permitted us to alternately compress the pedicles, "training" the flap to derive its blood supply from either pedicle. By this technique we were able to free either pedicle at the time of resection, and so bring the flap through which ever cheek gave the most convenient access to the surgical defect. We used the technique of McGregor[2] to bring the flap through the cheek taking care to avoid the branches of the facial nerve. The

From the Otolaryngology Service, Martinsville General Hospital, and the Division of Otolaryngology, University of Rochester, Medical Center, Rochester, New York.

BESTLER, J. M., M.D., *Attending Otolaryngologist, Martinsville General Hospital.*

TOOMEY, J.M., M.D., *Assistant Professor of Otolaryngology, University of Rochester, Medical Center, Rochester, N. Y.*

forehead defect was covered with split thickness skin graft, and zinc peroxide paste was used to cover the intra-oral suture lines for the first 10 days postoperatively. (Figs. 1, 2 and 4).

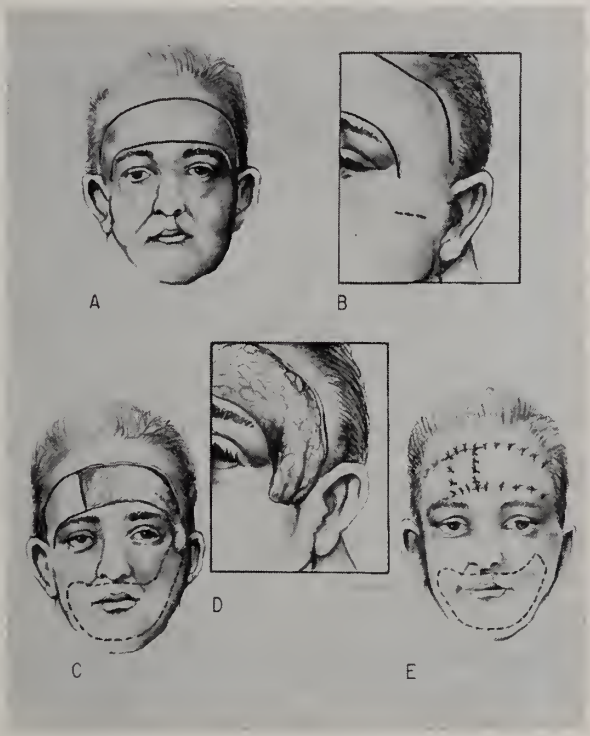


Fig. 2. A. Bipedicled forehead flap after the initial delay.
B. Detail of one pedicle indicating the site of the external incision for creation of the buccal tunnel.
C. The major portion of the forehead flap has been rotated 180°, passed through the buccal tunnel, and sutured across the defect in the floor of the mouth.
D. Detail of the flap pedicle entering the tunnel. Both the exposed portion of the pedicle and the donor site are covered with a split thickness skin graft.
E. Appearance immediately following the last stage with the flap pedicle divided and returned to the forehead. The small residual forehead defect is covered with split skin.

Case Reports

1. W.B. age 58. This poorly nourished white male was admitted to the John Cochrane VAH in February 1965 where examination revealed a huge lesion replacing two-thirds of the tongue with bilateral cervical adenopathy. Biopsy showed epidermoid carcinoma. A bipedicled forehead flap was raised and delayed. Three weeks later the patient underwent subtotal mandibulectomy, total glossectomy, total laryngectomy and bilateral radical neck dissection. At the time of the resection one pedicle of the flap was divided and the flap brought through the cheek to line the floor of the

Fig. 3. The intra-oral portion of the forehead flap in Case 3 is shown after division of its pedicle.

Fig. 4. Immediately post-operative appearance in Case 1 showing the flap pedicle passing into the buccal tunnel with the forehead donor site covered with a skin graft.

mouth. At 14 days the flap pedicle was divided and the remaining portion returned

to the forehead. The patient was discharged from the hospital two weeks later on a liquid diet taken by mouth, and he was free of disease and comfortable when last seen 14 months postoperatively.

2. P.Z. age 74. This white male was admitted to Strong Memorial Hospital in August 1965 with a massive lesion of the posterior two-thirds of the tongue and floor of mouth, extending through the right tonsillar pillars into the soft palate. Tissue biopsy showed epidermoid carcinoma. Bilateral cervical adenopathy was present. After delay of the forehead flap, subtotal mandibulectomy, total glossectomy, partial soft palatectomy, total laryngectomy and bilateral radical neck dissection was performed. Here, as in Case #1 a Kirchner wire was shaped to replace the resected mandible and seated in mandibular remnants on each side. The cheek flaps were draped across this wire and the forehead flap introduced into the oral cavity as in Case #1 for reconstruction of the floor of the mouth. In two weeks the flap pedicle was divided and returned to the forehead and the patient was ready for discharge the following week. This patient preferred to feed himself by Asepto syringe which he discharged into the hypopharynx, tilted his head, and swallowed. He is alive and comfortable 10 months later, although there was evidence of pulmonary metastases.

Case 3, W.W. age 50. This Negro male underwent right hemi-mandibulectomy, hemi-glossectomy and neck dissection for epidermoid carcinoma of the tongue in February 1965. He had recurrent disease in the tongue remnant four months later and supra-voltage radiation was used without effect. Consequently a forehead flap was delayed and the patient underwent total glossectomy, complete right mandibulectomy. The floor of the mouth was lined with the forehead flap as in the first two cases. Further extension of the original disease into the pterygoid space on the right was discovered four months later. He has, however, maintained a satisfactory oral intake, is comfortable, and significantly has a useful voice at the time of this writing.

Discussion

Dr. John Conley of New York has taught this simple but awkward truth: the tongue is the only important organ in the mouth, and when you remove it, oral crippling may result. After mandibulectomy and total glossectomy, oral alimentation and salivary continence are usually lost, and it is commonly felt that laryngectomy with subsequent loss of voice is a necessity to avoid persistent aspiration. Subtotal mandibulectomy aggravates these problems in addition to creating the "Andy Gump" cosmetic defect.

Edgerton[3] has provided an excellent description of the physiology and anatomy of swallowing. It is the surgically induced impairment of this function which must be overcome by any reconstructive effort, with an adequate cosmetic result being achieved as well.

With removal of tongue and mandible, the immediate reconstructive problems are the following:

1. There is a denuded surface from buccal sulcus across the suprahyoid area to the opposite buccal sulcus which must be covered.
2. If the larynx was not removed during the resection, effort must now be made to design a new floor of the mouth which will not make aspiration inevitable.
3. The new floor of the mouth must be designed to permit some type of oral alimentation and to prevent salivary incontinence. (Fig. 3)
4. A satisfactory cosmetic result should be sought either at the original procedure or as a delayed staged procedure. (Fig. 5)

Now considering these problems in order:

1. The considerable defect created by this type of resection requires abundant tissue to cover the floor of the mouth. Split thickness

skin grafting[4,5] is the most obvious approach, but lack of bulk and contracture of the graft postoperatively severely restricts this technique. It has been accurately remarked that the split thickness skin graft will, if carefully handled, have a high percentage of "take" in the oral cavity.[6]

Fig. 5. Final appearance of the forehead in Case 1.

The forehead flap as we have used it has provided more than sufficient tissue to line the floor of the mouth. In Case #2 we were able to simultaneously reconstruct a partial soft palate resection. Median forehead flaps, and other limited forehead flaps do not provide sufficient tissue or length to avoid tension on oral suture lines. The forehead flap has been unaffected by the constant salivary bathing and has shown only minimal evidence of contracture after one year.

2. In Case #3 we did not perform laryngectomy and instead used the forehead flap to line the valleculae. In this fashion it was possible to suspend the larynx from the flap. Post-irradiation scar gave additional support, but we do not feel this was essential to the technique. This patient had little difficulty with aspiration, and of course a voice was maintained. It is our feeling that the forehead flap is sufficiently sturdy so that anterior stabilization of the flap to the buccal sulcus margin would probably permit suspension of the larynx at the valleculae in the majority of cases.

3. The new floor of the mouth must be given a caudad inclination and perhaps a central anterior to posterior sulcus to prevent salivary drooling or puddling and to facilitate oral alimentation with gravity.

Bakamjian[7] described a method conification with cheek flaps by which he accomplished this inclination. We have achieved this objective by suturing the forehead flap to cheek with the desired caudad inclination posteriorly during placement of the floor of mouth coverage. This has been simple and adequate. In one case it was necessary to revise the flap posteriorly to give a sharper caudad angulation.

4. Bakamjian[7] has described a method of partially denuding one cheek flap and then overlapping with the other cheek flap to provide bulk in substitution for the reserted chin. This has the advantage of being performed at the time of the primary procedure as has the present technique.

The forehead flap as we have used it has given considerable intra-oral bulk which does bolster the chin to a certain degree. The Kirchner wire fixed in mandibular remnants and formed to the resected mandible has given further, immediate, cosmetically effective reconstruction. We have felt, nevertheless, that future implant of autogenous rib or iliac crest would be desirable for a fully satisfactory cosmetic result.

Conclusion

1. Three cases of massive carcinoma of the tongue and floor of mouth were presented having undergone palliative total glossectomy, subtotal mandibulectomy, bilateral radical neck dissection, and (in two cases) total laryngectomy.

2. A discussion of the problems of reconstruction was given, and a description of our use of a complete forehead flap to over-

come the major reconstructive obstacles was presented.

3. Very satisfactory palliative results were obtained in all cases.

BIBLIOGRAPHY

1. Edgerton, M. T., Devito, R. V.: Reconstruction of Palatal Defects Resulting from Treatment of Carcinoma of Palate, Antrum, or Gingiva. Plast. Recon. Surg. 28:306-318, 1961.
2. McGregor, I. A.: The Temporal Flap in Intra-Oral Cancer: Its Use in Repairing the Post-Excisional Defect. Brit. J. Plast. Surg. 16: 318-335, 1963.
3. Edgerton, M. T., McKee, D. M.: Reconstruction with Loss of the Hypomandibular Complex in Excision of Large Cancers. Arch. Surg. 78: 425-436, 1958.
4. McLaren, L. R.: Reconstructive Surgery in the Treatment of Malignant Disease of the Mouth. Brit. J. Plast. Surg. 15: 305-317, 1963.
5. Fister, W. H. and Shap, G. S.: The Intra-Oral Use of Free Split-Thickness Skin Grafts in Commando-Type Procedures. Am. J. Surg. 106: 709-711, 1963.
6. Slonetz, C. A. and Rankow, R. M. The Intra-Oral Use of Split Thickness Skin Grafts in Head and Neck Surgery. Am. J. Surg. 104: 721-726, 1960.
7. Bakamjian, V. and Cramer, L.: Surgical Management of Advanced Cancer of the Tongue. Ann. Surg. 152: 1058-1066, 1960.

1085 Spruce Street
Martinsville, Virginia

Let's Reminisce!

Transactions of The Medical Society of Virginia, 1879 meeting.

Honorary Fellow, Dr. R. S. Payne, presented and urged the adoption of the following:

> *Resolved,* That, hereafter, the President of the Society be elected by a vote of the whole Society, and not upon the recommendation of the Nominating Committee (the vice presidents and other officers to be elected as heretofore).

The Doctor remarked that, according to the manner by which the President has been elected heretofore, it was within the power of the retiring President to have elected whomsoever he might desire to succeed him. He did not mean to say that such had ever been the case, for he had no doubt that all elections had been fair and above board; but it may so happen in the future that less worthy men than our former officers might succeed in office, and use their power to the detriment of the Society.

Dr. W. C. Dabney opposed the resolution on the grounds that it would take up too much time and cause delay in the proceedings.

Dr. Horner supported the resolution. He thought that every section of the State—indeed, every member—should have a voice in the nomination of a president.

Dr. Hunter McGuire stated that Dr. Payne's resolution originated with the Nominating Committee, and met with the unanimous approval of that Committee. He was in favor of the adoption of the resolution, and hoped it would be the pleasure of the Society to endorse it.

The resolution was adopted.

Use of 50 mm. x 50 mm. Glass Plates in Pathology

M. SHANNON ALLEN, JR., M.D.
Charlottesville, Virginia

A useful technique, especially in teaching.

A. *Preparation of Histologic Sections for Projection, Viewing and Storage.*

IN TEACHING medical students and residents, and in conferences with other departments, it is profitable for the pathologist to project a low power magnification of the lesion to be discussed. So often a photomicrograph shows such a limited area of the histology that it is difficult for the observer who has not studied the entire case to visualize the relationship of the area shown in the photograph to the entire lesion. In addition, pathologists are often asked to attend conferences on such short notice that preparation of photomicrographs is laborious, time consuming, or impossible.

In order to overcome these limitations I have made use of tissue sections mounted between two 50 mm. x 50 mm. glass plates* (glass plates commonly used for mounting two x two transparencies). These histologic preparations are prepared by the histology technician and can be projected on a screen with the routine 35 mm. projector. The sections show excellent color, architectural pattern and gross relationship of the lesions to the normal anatomy, that is easily grasped by one unfamiliar with the microscopic detail. The glass plates can be prepared routinely without additional or unusual equipment. They can be available for projection in 24 hours if the tissue is in paraffin and in 48 hours if the tissue is in formalin or fresh.

These histologic sections are not different from the routine histologic sections, thus they can be examined with the microscope in a routine fashion. A series of related lesions mounted on glass plates can be placed on a view box for comparison and study. The glass plates can be stored indefinitely.

Technique of Preparation

A segment of tissue 45 mm. x 35 mm. x 3 mm. is cut and fixed in 10% formalin. The tissue is wrapped in gauze, labeled and processed in the automatic tissue processor overnight. The tissue is embedded in paraffin and sectioned on the standard rotary microtome. The tissue section is placed on a 50 mm. x 50 mm. glass plate and stained with hematoxylin and eosin. Permount* is dropped over the tissue section and a second 50 mm. x 50 mm. glass plate is used as a cover slip. After approximately eight hours of drying the permount is hard. The glass plate is now ready for projection. Plastic masking tap may be placed around the glass plate to facilitate handling and prevent breakage. (See figures 1, 2, 3, 4, 5 and 6.)

B. *Preparation of immunological results for projection, viewing, and storage.* (Antigen-antibody reaction in gels with the formation of preciptin lines.)

Glass plates are an excellent vehicle for the demonstration of antigen-antibody reaction in gels. The results can be viewed directly or projected showing the preciptin lines. The preparation can be stored indefinitely as a permanent record.

From the Department of Pathology, University of Virginia School of Medicine, Charlottesville.

* E. Leitz, Inc., New York, New York.
Eastman Kodak Company, Rochester, New York.

* Fisher Scientific Company, Fair Lawn, New Jersey.

Technique of Preparation. (Ouchterlony[1] agar-diffusion method on 50 mm. x 50 mm. glass plates)

Glass plates, 50 x 50 mm., are coated with a thin layer of 4% agar and dried. 5.0 ml. of 2% agar is carefully layered on the glass plate. Care should be taken to keep the plate level. After the agar has hardened (approximately 5 minutes), the appropriate pattern can be cut with an agar cutter. Antigen and antibody are placed in appropriate wells. When preciptin lines appear, the agar plate is washed throughly in buffered saline. The agar is covered with a piece of filter paper, placed in an incubator, and dried. This leaves a very thin film of agar containing the preciptin lines. The dried plate is then stained with an appropriate stain

Fig. 1. Adenomatous polyp of colon.

Fig. 2. Inflammatory (juvenile) polyp of colon.

Fig. 3. Villous adenoma of rectum.

Fig. 4. Adenocarcinoma arising in a villous adenoma of the rectum. Arrow shows the mucinous adenocarcinoma invading through the muscularis of the rectal wall.
(All above photographs magnified X2.)

such as Buffalo black, and mounted with Permount and a second 50 mm. x 50 mm. glass plate as a cover slip. After drying, the glass plate can be projected with the standard 35 mm. projector, viewed or photographed, and stored as a permanent record (See figure 7).

Fig. 5. Histology technician applies a glass plate (50 mm. x 50 mm.) as a cover slip over a stained tissue section mounted on another glass plate.

Fig. 6. Projected image of adenomatous polyp (shown in Fig. 1). Leitz Prado projector 16 feet from screen. Projector is seen at bottom of picture.

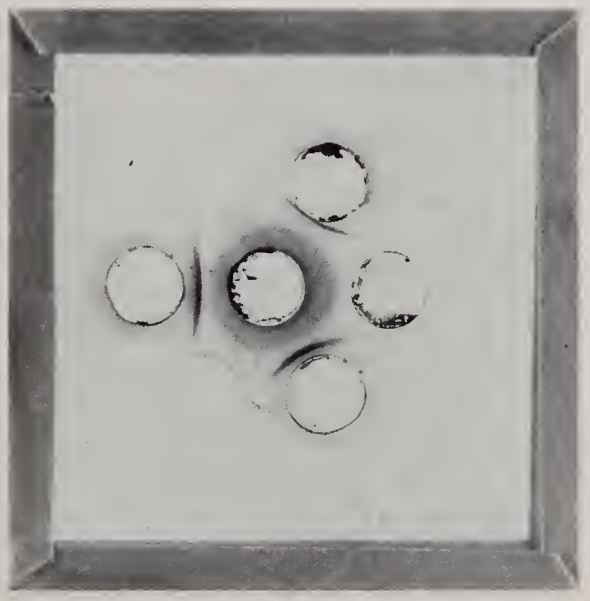


Fig. 7. Demonstration of stained preciptin lines of antigen-antibody reaction in gels.

Summary

This is not a new technique. It re-emphasizes a readily available and uncomplicated method of demonstrating pathologic lesions that would be troublesome, expensive, and time consuming to photograph. It offers in addition the opportunity to study the lesion microscopically and to store it indefinitely.

The glass plates are an excellent vehicle for the demonstration of preciptin lines. The preparation can then be viewed, projected and stored as desired.

Reference

1. Ouchterlony, O.: Antigen-Antibody Reactions in Gels. Acta Pathol. Microbiol. Scand., 26: 507-515, 1949.

University of Virginia
School of Medicine
Charlottesville, Virginia

The Changing Environment of Medical Practice

A Brief Presentation and Panel Discussion

PART II

Peter Terenzio:

I hope some of you have had the opportunity to read the famous Coggeshall Report on medical education. Among other things, this report set forth some trends for the future. From the point of view of a hospital administrator, the most important trend is what the report calls institutionalization of medical care. The report also discusses changes in the practice of medicine, how some years ago most medicine was practiced in the patient's home. Today, most medicine is provided in a doctor's office, in a clinic, or in a hospital. Medical care is going to become more and more centered in the hospital or some other institution. The signs are there. In 1954 there were 16 million visits to emergency rooms. By 1963 this number had risen to 33 million visits. Between 1930 and 1960 we had a 50% increase in the number of patient days of care rendered in this country and at the same time lowered the stay from 15.5 to 9.3 days per patient.

There are several reasons why I think medical care is being institutionalized: the patients are demanding it. Patients are becoming more and more sophisticated. Medicare was something the public wanted. You may ask, "Is this the time to bring in Medicare when beds are short already? We don't have enough doctors, we don't have enough technicians even under present conditions." Nevertheless, the institutions will have to gear themselves to meet the need. We're going to change our modes of practice in the institution. Specialization is causing it. As medicine gets broader and broader, specialization becomes more and more confined. For example, a specialty like allergy has become sub-specialized into pediatric-allergy. As this happens, it becomes obvious that the doctor must work with other doctors in his own private group or in a hospital if he wants to keep some semblance of his present way of practicing.

Education and research are also causes for this trend. We're getting rapidly to a point where the average doctor-to-be is spending as much time in education outside the walls of the medical school as he spent inside the walls of the medical school. The average doctor today spends four years in his internship and residency as compared with four years as a student inside the medical school. As we gear ourselves to conduct training programs, as we gear ourselves to conduct research programs, we do this within the concept of the kinds of medical care we want to do, we do all this inside the institution.

The government's pouring money into this helps do the same thing. The United States government expects to spend on Medicare alone in the last six months of this year $1.4 billion of which $1.1 billion are going to go to hospitals and other health care institutions. There are some things we can do to get ready for increased institutionalization.

At the Roosevelt Hospital, we decided to take a look at the future from four points of view. First, we had a look at the hospital from the kind of doctors we have and the kinds of services we render. Obviously if we have a famous hand surgeon, we are going to be in the hand surgery business. If we have plastic surgeons, we're going to do

This is the second part of a symposium presented before the Richmond Academy of Medicine, February 8, 1966. Part I was published in the May issue of the Monthly, page 293.

plastic surgery business. If we don't have ophthalmologists we won't go into the eye work. So we asked each service to prepare prediction studies on the technology of its specialty in the next ten years. Second, we had another group of people who looked at the Roosevelt Hospital as an educational and research institution. Because we are so heavily involved in education, we have certain obligations and certain commitments for the future. The third and most important of all, we took a look at the community outside. Let's get outside the walls of the institution and see the pressures that are going to affect our institution: government, the people in our community, the people who live around us, their needs, the unions, the demands that are being made upon us by business. And so we took a look at public health agencies and other hospitals and began thinking about regionalization. And fourth, we took a look at cost. Where's the money going to come from and what do we chop off if we don't get the money to do the kinds of things we have to do.

The impact of this program was not encouraging. The climate at Roosevelt Hospital was a typical climate of hospitals in this country. Whether this is a reflection of feelings about the AMA or what, I don't know. But I can assure you that the doctors of Roosevelt Hospital felt that the trustees were getting into areas which were none of their business and were running away with the show. They felt the administration was leading them down garden paths which they were not sure were the way of the future. It was decided that these four roads might not be the right four roads. We've decided to develop a frame of reference. If we don't have a frame within which to work . . . like four fingers . . . these four committees could go off on four different roads and never meet. So with the help of some consultants, colleagues, and associates, an outline of a master plan was prepared. This plan was shared with some of the key medical staff on an individual basis. Some of these physicians were full time; some voluntary. Then came the suggestion, that maybe a group ought to go away and spend a couple of days and do nothing but talk and think about the Roosevelt Hospital's future. So last July, ten of us went up to West Point and these ten were the Chairmen of the Departments of Surgery, Medicine, Obstetrics and Gynecology, Pediatrics, Psychiatry, Pathology, Laboratory and Radiology; the President of the Medical Board, the President of the Hospital and me. We spent two solid days thinking about the future of our hospital. Out of this meeting has come a spirit in which the doctors have given some real leadership. Any long range plan of the Roosevelt Hospital that I could develop with consultants, architects, planners wouldn't really be the long range plan of the Roosevelt Hospital. Such a plan needs the participation of the Board of Trustees and the medical staff. Everybody thinks that maybe we're on the right road. Out of 120 active attendings who were asked to submit suggestions, 97 have responded. I can't tell you that all these letters are good. Sure there's the one or two people who don't want a change, who feel that where we are going is dangerous. But there are others who are giving some real thought to the future and what must be done. I am personally convinced the opportunity exists now for the men of medicine to take the leadership. I agree wholeheartedly with Dr. James, "If you don't, somebody will".

Robert A. Neiman:

Dr. James and Mr. Terenzio have stated quite clearly the kind of changes which must be made by the medical field in order to respond to unmet needs, to control costs, to improve quality of care.

The medical industry is not alone in having to face the challenge of responding to more rapid and far-reaching change. Secretary of Health, Education and Welfare Gardner said recently, in the annual report of the Carnegie Foundation, "It's doubtful that we can any longer afford widespread

inattention to the largest questions facing us. We achieved greatness in an era when changes came more slowly than now. The problems facing the society took shape at a stately pace. We could afford to be slow in recognizing them, slow in coping with them. Today, problems of enormous import hit us swiftly. Great social changes emerge with frightening speed. We can no longer afford to respond in a leisurely fashion."

Nowhere is this more true than in the medical care world today. Since World War II, federally supported research, major expansion of prepayment insurance plans, technological developments all spurred vast acceleration in the pace and scope of progress. Medical care has become a fast-moving, rapidly changing business.

Change in the medical care industry in the past 30 years is, however, a fraction of what we can expect to see in the next decade. In the next ten years political, social, economic, organizational as well as technological change will create, by 1970, a medical care industry which will be the first or second largest employer of people in the country. The American economy will commit 8 to 10% of the GNP to medical care as against 6% today. As federal government support takes on new dimensions, dozens of changes can be expected to come in the way medical care is evaluated, controlled, managed.

Can the American medical care system keep pace with the demands? At a time when the pressures and demands for change in hospitals are increasing, most hospitals confront particularly difficult resistances. Even modest changes are difficult. Elevators need to be speeded up; errors in laboratory determinations reduced; better trained nurses provided; faster x-ray service; better education programs; experiments with new techniques and equipment; new relationships with government agencies.

Somehow the machinery moves slowly. Trustees have major decision-making power, but they are not experts. As volunteers they do not have the time and energy needed to make the hundreds of complicated decisions which the modern hospital faces. Administrator's energies are too often consumed by day-to-day operating problems, emergencies, crises. Often they have too limited a view of their jobs to play the role of true chief executives. Doctors, who, in their day-to-day functioning, have a vital impact on the hospital's operations, are too often left out of the planning process entirely. This is because doctors often do not look beyond the job of caring for today's patients, with today's tools, to the much tougher job of inventing and using new approaches to deal with larger questions of health need.

Moreover, there are structural problems. Hospitals exist as collections of semi-autonomous specialty departments. Each is preoccupied with its own needs and goals. In most hospitals the departments have far too little experience in working together to achieve overall objectives. Parochialism and conflict are common.

As a result, now that it's time to accelerate change—face unmet community needs, open new services, merge with other institutions, launch expansion programs—hospital leaders face real problems. Change comes at a staggering price. It is necessary to spend enormous amounts of time and energy to gain understanding of, consensus on, and commitment to new ideas.

This is a price few hospitals can any longer afford to pay. Clearly, those hospitals which do not gear up for major change will face increasing struggles for patients, dollars and staff. Any institution which hopes to play a real role in the future system of health services must have a pattern of management far different from the traditional voluntary hospital we know today.

The apparent difficulties are not insurmountable obstacles, however. There *are* ways to induce and develop the processes of organizational self-renewal.

C. Northcote Parkinson suggested one approach in his book, *Inlaws and Outlaws:*

"The situation is one which might be compared superficially to that faced by a hotel proprietor who has returned after a long absence to find the hotel neglected. The rooms are dirty and the paint work has suffered, the service is bad and the food is worse. Servants who are perfectly capable of good work have picked up idle and slovenly habits. There are several possible remedies, but the quickest and most effective is to announce a cocktail party for 200 guests, to be followed (after three days) by a banquet and (two days later) by a ball. Cooks, waiters and bar men suddenly find themselves faced by a major crisis, with problems as numerous as they seem insoluble. Their morale rises overnight and the hotel becomes a different place. Any other organization can be at least temporarily revived in the same way. The technique is to announce the program in three phases. Phase one is well within the staff's known capacity. Phase two is extremely difficult; phase three apparently impossible. Faced with tasks of this order and in this sequence, any organization must pull itself together."

There are no pat solutions. Every institution must find its own path, and every institution has to begin the process of accelerating change within its present capacity using immediately available opportunities. This means that the hospital has to take a realistic look at itself as it is today in order to decide how to move ahead.

Some hospitals, for example, are overwhelmed by day-to-day operating problems. All energies are aimed at just keeping up with the job of taking care of today's patients:

—Nurses scurry to find missing laboratory reports.

—House staff members negotiate with x-ray for examinations of a "special case".

—Accountants search for someone to approve a bill.

—A chief of service complains about a delay in the operating room schedule again.

The leadership in one such hospital, upon taking stock, initiated an operations improvement program. The challenge was placed squarely before the entire staff. People responded to this new challenge, showing previously unsuspected talents. Within four months a series of projects began, ranging from cost reduction in the dietary department, to improving control of nursing unit equipment, to canvassing housekeeping workers for ideas on how to do a better job. These were modest projects, but they were the beginning of a long-term improvement effort.

The size and sophistication of initial undertakings is less important than their success. Success breeds confidence and the willingness to move further, to strike out for more ambitious goals.

A community hospital became concerned with its future when a new hospital was built in a neighboring city. Patients and doctors came to prefer the new medical center. Income went down. Buildings aged, fell into disrepair. Medical staff became disillusioned.

Some believed that a new long-range modernization plan was needed. While this was true, few really had confidence that any major plan could be achieved. They decided instead to put some people to work on one project—improving the emergency service. An assignment was issued to a small combined group of trustees, doctors and administrators to tackle this tough but manageable job. They succeeded and, more important, in the process of working on the emergency room problem, they became aware of a new need—mental health care in their community. They tackled next, therefore, the job of developing a psychiatric service. This was a much bigger job. It took well over a year and a half. But again, they were successful. By now the community hospital was beginning to look like a different enterprise. It had a busy

emergency room performing valuable services for the community. It was pioneering in a mental health program. There was momentum and new readiness to tackle modernization programs.

What all this means is that gearing up for major change in the hospital does not necessarily begin with the appointment of a long-range planning committee to study the future and prepare a plan for the hospital's development. Simple and logical as this may sound, too often a long-range plan provides only a fraction of what's needed. The planning process must develop many plans, the capacity to make plans succeed, the ability to change plans to meet changing circumstances. This means that what is really needed is control of the future of the enterprise. And control results from:

—experience in making and carrying out plans of increasing scope and complexity;

—learning how to predict needs and develop methods to produce measurable impact in meeting them further and further into the future; and

—learning how to change patterns of organization to put people together in new ways to do new jobs.

Progress on all three fronts is needed simultaneously. And all medical care institutions will have to master the process. Hospitals, health departments, government agencies, medical schools, individual practitioners, and even patients will have to learn new ways to provide and use health services. Learning how to do this is a critical factor in responding to the accelerating and changing demands for health care.

(To be continued in the July issue of Virginia Medical Monthly)

Insecticides

Here's today's health tip from the American Medical Association—most insects can be knocked out with sprays, powders and other poisons, but the unwary gardener can sometimes suffer from the effects of bug sprays, too. Read the directions on the container carefully and follow them. If directions call for rubber gloves, protective clothing or goggles, leave it alone, unless you are an expert. Store insecticides in their original containers and with original labels, in a safe, locked compartment, away from children and pets. Destroy empty containers immediately. To avoid inhaling sprays and dust, always apply insecticide downwind, and stay out of freshly sprayed areas. Don't smoke while you're spraying or dusting, some of the chemicals are flammable. If they are spilled on your skin, wash up immediately. Keep bird baths, dog dishes and fish pools covered while spraying. And pour left-over spray down a drain or into the soil. *Don't* leave it around in pans or pails. In case of accident follow the directions printed on the container.

Coronado

JOHN P. LYNCH, M.D.
Richmond, Virginia

THE FIRST NATIONAL CONFERENCE for Professional Nurses and Physicians was held in Williamsburg, February 13 through 15, 1964. This conclave was an ice breaker which was characterized by one of the leaders of this, and subsequent conferences, as an edgy encounter. The two professions were sparring for position and seeking common ground of acquaintance and understanding. This was the conference of confrontation.

The second conference was held in Denver, September 30 to October 2, 1965, and the nursing representatives seemed less inclined to make an issue of the independent-dependent prerogatives and professional responsibilities, and the physicians, on the other hand, made much less of these as a road block to dialogue. Beginning dialogue was the result of this conference.

So that more ideas and people might be involved in the third conference only forty per cent of the physicians attending the second conference were invited to Coronado, but they were invited to lend continuity to the third conference.

This Third National Conference was held in the beautiful old Hotel Del Coronado in Coronado, California, February 23, 24, and 25. This fine old hotel is reputedly the largest wooden structure in the world and its paneled dining room one of the country's handsomest. It was built in 1888 but its conference rooms and cuisine were of modern decor and excellent taste. It was a fitting setting for this conference whose theme was "The Need of the Patient".

The importance of this conference was attested to by the presence of the President of the American Medical Association, Dr. Charles L. Hudson, and the President of the American Nurses Association, Miss Jo Eleanor Elliott. Each gave an enthusiastic greeting of welcome. Dr. W. Benson Harer of the A.M.A.'s Planning Committee ably presided at the opening session. I was fortunate to be in the discussion group which he attended.

The first morning session introduced the important leaders who keynoted the conference on the over-all subject of the *Sick Persons' Needs.*

Fittingly enough, we heard first from the patient—and a very eloquent and articulate patient he was, Mr. Lloyd B. Wescott, President of the Board of Trustees of the Hunterdon Medical Center of Flemington, New Jersey.

He felt that above all the patient needs confidence that all that can reasonably be done for him, be done. This confidence, in the modern world, is getting harder and harder to come by, what with the Readers Digest's medical articles on miraculous cures and the general rise of the public's half baked knowledge of medical matters. Unfortunately, training and competence have little to do with ability to inspire confidence. The greatest quacks of all times have as the hall mark of their success their ability to inspire confidence. However in view of the general increase in medical knowledge, quackery has a more difficult time in maintaining confidence. But confidence in competent physicians and nurses is frequently shaken by the veritable spate of articles attacking doctors and nurses and hospitals, and even technicians. Many of these are written by articulate persons who have had unfortunate experiences or personal grudges.

Another thing that shakes the confidence

Dr. Lynch is a member of The Medical Society of Virginia Committee on Liaison with the State Board of Nurse Examiners and Organized Nursing.

of a patient is the sense that doctors and nurses at times seem to doubt the wisdom of one another's decisions. A raised eyebrow on a house staff man, a sniff and a mutter from a nurse, or an angry outburst of a doctor who finds that his orders have not been carried out can have a devastating effect on a patient. He went on to say that if one doctor or nurse wants to criticize another it should be done in private and not in front of a patient.

Another need that a patient has is someone who cares for him personally. In spite of all the talk about more hospitals and more beds, for both of which the need will become more acute, it is well to remember that it takes more time to train a nurse or a physician than it does to build a hospital. The shortage of both nurses and physicians is bound to become more extreme if not disastrous.

He went on to say, and I quote so as not to be accused of editorializing, "I, the patient, see both medical schools and nursing schools seeking to increase scientific knowledge and the specialized skills of their students. This is indeed commendable; in fact, in the twentieth century, it is actual heresy to question it. But, if, in view of the impending shortage of trained persons, this tends to limit the supply, I, the patient, am gravely concerned. As a patient I feel that medical schools, under the impact of Federal and private grants, are oriented too strongly toward research and the training of research men, rather than practitioners. A vast body of new scientific knowledge is of little use to me, if I cannot find a doctor to apply it to my particular problem.

"Just so with the nursing schools. It is wonderful to think that tomorrow's nurse will be far better educated than yesterday's, but if she exists for me only as an abstraction, she will do me little good. Frankly, I, as a hospital patient, would rather have my light answered by a practical nurse, or even an aide, than to have it not answered by a nurse with a Ph.D. It may be hard for the highly trained medical professionals to concede that second best care is better than no care, but, from the patient's point of view, it certainly is.

"So, as a patient, I beg both doctors and nurses take a fresh, hard look at their roles; that they search for ways to extend their competence, through the use of hands less well-trained, to do the less exacting tasks. I suggest that a thorough study be made of what doctors do, to determine what they alone can do, and what nurses can do for them, and a like study be made of what nurses do, to determine what, of their responsibilities, can be assigned to licensed practical nurses, aides, clerks, secretaries, technicians.

"Title XVIII is already in effect, and Title XIX will be with us across the nation, in some form, by 1970. If my concern about the impact this will have on the already short supply of doctors and nurses is valid, then we are in for trouble. The day may possibly come, again, when we, as a nation, can afford to have internists treating head colds, and degree nurses rubbing backs, but it won't be for years.

"So, as a patient, I would say the sick person needs:

—confidence that he is receiving the best care he reasonably can expect
someone to answer, when he calls."

The next keynote address on the patient's needs came from Dr. Samuel P. Martin, Provost, Health Center of the University of Florida. He stated that the average American patient seeks medical care because of a severe and threatening crisis. In evaluating patients' response to previous medical care, he found that nearly half of them expressed dissatisfaction which he attributed to a lack of communication with their physicians who they felt lacked concern in them as people. He recommended that the average American patient needs:

1. A care system which is immediately available and obvious.

2. A system which has continuity over his life span and operates where symptoms exist or not. A crisis should not be the motivation for good medical care.

3. To be considered a person—not a disease syndrome.

4. A system which relates closely to the culture and utilizes the forces of social system.

5. A care system which directs its efforts not only toward the patient but toward his total environment.

6. Assurance that the system of care is of the highest quality.

Mrs. Rhetaugh Graves Duncan, Chairman of the Psychiatric Nursing Program and Assistant Professor, Yale University, emphasized that nurses and physicians view patients from a different perspective. Each practitioner experiences the sick person within the limits imposed by professional prerogatives, functional responsibilities, interpersonal and technical competences, and physical and social framework within which he practices.

Dr. Leonard Schatzman, a behavior scientist who is Assistant Professor, School of Nursing, University of California Medical Center in San Francisco next addressed us. He, too, stressed that the patient needs medical care whether or not he understands or appreciates it. But he also needs his medical care in the context of a human relationship rather than a contrived or arranged relationship in the context of medicine.

Following these key note addresses the conference was broken up into ten discussion groups each led by a moderator who had had experience in the other, previous conferences or who had special experience in the field.

I was assigned to group five ably moderated by Dr. L. W. Early, Professor of Psychiatry at the University of Pittsburgh. We discussed many things quite frankly and openly. Five nurses and five physicians were in the group. The nurses barred no holds in expressing their opinions and the doctors gave no quarter, but the discussions, while provocative, were not acrimonious, and a fine communication was established. Nursing education was discussed at length and many new ideas were exchanged. In those areas of the country where the associate degree programs were offered, recruitment was easier and more nursing candidates resulted. This associate degree program was found to be more attractive because it not only grounded the nurse better in the academic side of nursing but also gave her an opportunity to proceed with two more years toward a college degree. The one admitted fault in the program was its recognized lack of clinical training. This deficiency it was felt could be made up by an additional six months or a year practical hospital experience for those who chose not to go on for the baccalaureate degree, and for those who did, an intraining program might be designed even after their course of study. The Certified Bed Nurse was not considered to be of value in the program of nurse education. Nothing in the associate degree program was contemplated that would suddenly displace the R.N., but its implementation could be a gradual transition in those communities which have college facilities working with hospitals. In those smaller communities the hospital trained nurse would continue to be educated.

The designation of the nurse clinician was discussed. She would be and already is, in many areas, a competent R.N. or an associate degree nurse or better still a bachelor degree nurse who might be further trained to take clinical responsibilities in special coronary care, respiratory and metabolic and emergency room units. She would often fulfill the role of the doctor on the spot, associate and be given authority to make clinical decisions in his absence and for him as his trusted associate. Actually this is nothing new but its implementation needs to be expanded if we are to meet the increasing demand for health personnel.

The sleeping giant of the conference was

government. No one mentioned it and yet I think you will agree it has come to be the most powerful element in the health picture. I am afraid it is not of the jolly green type and I will not strain your imagination if I should ask you how you would color it. May the Good Lord help us.

I think the major emphasis of the conference could be summarized by saying that an improvement in communication between nurses and physicians is the most important step in fulfilling the needs of the patient. This should be accomplished by starting at the local level as follows:

(1) Promote establishment of joint liaison groups at the local level.

(2) Work together to develop model patient care plans designed to satisfy patient's needs.

(3) Cooperate in altering established systems and methods which may tend to inhibit delivery of needed patient care.

(4) Seek ways to provide time to bring the doctor and nurse together for formal and informal consultations and conferences concerning the care of the individual patient.

(5) Among more controversial suggestions was that the two professions investigate the possibility of providing mutual educational experiences for physicians and nurses to establish an early rapport and appreciation for mutual problems.

At our local level I would propose the following concrete actions:

(1) That The Medical Society of Virginia and the Virginia Nurses Association plan a one-day State conference to which both National and State leaders be invited to address themselves to the improvement of patient care in Virginia.

(2) That similar programs be held in the larger cities and their surrounding areas at the local level.

(3) That permanent Physician-Nurse liaison committees be set up in those larger localities to stimulate mutual understanding and continued communication between the professions. There is a standing liaison Committee already in being between The Medical Society of Virginia, the State Board of Nurse Examiners and Organized Nursing.

(4) That Hospital Administrators be invited to join these dialogues at the State and local levels.

(5) That further dialogue might generate other areas in educational improvement in the field of medicine and nursing such as mutual educational experiences for the two professions.

In closing I would like to thank personally and publicly the American Medical Association and the American Nurses Association for the fine opportunity they gave me to attend the Conference at Coronado.

1000 West Grace Street
Richmond, Virginia

Clinicopathological Conference . . . .

Congestive Failure After Correction of Dissecting Aneurysm

Prepared and Edited by

LOCKHART B. McGUIRE, M.D.
DAVID E. SMITH, M.D.
University of Virginia School of Medicine
Charlottesville, Virginia

CLINICAL DISCUSSANT:

Dr. Jonathan O. Partain
Patient A.R.M. UVH # 35-72-70.
Autopsy No. 10951
This conference was held on January 21, 1967.

Clinical History

This 52-year old postman was admitted in January, 1966, because of dyspnea. He died suddenly eleven months later.

This patient was incidentally found to have a blood pressure of 180/110 in 1952. In August, 1958, while sitting in church, he developed sudden substernal pain with radiation to both elbows. This subsided in about five minutes, but was followed by generalized weakness, and pain and numbness in the lower back. He was admitted to this hospital, where his blood pressure in the right arm was 95/70, left arm 140/60, and the right carotid pulse was diminished. The heart seemed to be normal. Soon thereafter he was taken to the operating room, placed on cardiopulmonary bypass, and a diagnosis of dissecting aneurysm was confirmed. The ascending aorta was opened, and a primary internal tear was found approximately 2 cm. distal to the origin of the aortic valve. The split between intima and adventitia had dissected proximally to the origin of the aorta as well as distally, the primary tear was closed, and the entire ascending aorta was wrapped with Dacron. Post-operative problems included fever, a rise of blood urea to 256 mg.%, jaundice, disorientation, auricular fibrillation, and respiratory distress which required a tracheostomy. These were successfully managed, and he was discharged on 9/27/58.

At out-patient evaluation three months later the patient felt and appeared well. Blood pressure 190/110, enlargement of the left ventricle, a grade 2 arotic systolic murmur, and a faint, short diastolic murmur along the left sternal border were noted. Electrocardiogram showed left ventricular hypertrophy. Antihypertensive therapy consisting of reserpine and chlorothiazide was begun.

Subsequently he was relatively well and returned to work. In 1963 he was considered to have developed congestive failure, which responded to the administration of digoxin. Around Christmas in 1965, associated with the increased volume of postal work, he developed increasing breathlessness. There had been a mild recurrence of chronic sinusitis. He denied orthopnea. Past medical history was otherwise unremarkable except for occasional gouty arthritis, which had been controlled with colchicine and probenecid.

Physical examination: A normally developed man, somewhat pale, sweaty and dyspneic, but not orthopneic. Blood pressure 200/70 right arm, 180/70 left arm, pulse 80 and regular. Temperature 37°. There was no jugular venous distention. The lungs were clear except for slight diminution of breath sounds and rales at the left base. The cardiac apical impulse was visibly displaced to the anterior axillary line and markedly increased in volume. A grade 3/6 basal systolic murmur, intact semilunar valve closure sounds, and a grade 3/6, decrescendo, diastolic murmur along the left sternal border were described. One observer noted that the diastolic murmur was audible at the apex and left scapula. There was a large, pulsatile

mass at the level of the umbilicus, 6-8 cm. in diameter, and an epigastric bruit. Femoral and tibial pulses were normal, and there was no edema.

Laboratory studies included normal hematocrit, WBC and smear, urinalysis, and negative VDRL. Serum electrolytes were normal. Urea 90, creatinine 1.9, FBS 127, and uric acid 9.7 mg.%. Electrocardiogram showed borderline 1st degree AV block and left ventricular hypertrophy, with repolarization changes attributable either to hypertrophy or ischemia. Chest x-ray showed widening of the thoracic aorta and marked enlargement of the heart, predominantly left ventricle. Abdominal x-ray showed a probable aneurysm with calcification.

Hospital course: With rest, salt restriction and a mercurial diuretic the patient felt very much improved. No measures were considered to be necessary for his sinuses. He was discharged after a week to follow a reduced level of physical activity, digoxin and hydrochlorothiazide. The patient was moderately active although retired from work until symptoms of congestive failure developed again on 10/28/66. These responded to a similar therapeutic program at the Martha Jefferson Hospital. On 11/22/66 he was seen at home because of increasing breathlessness, and was found to have a grossly irregular cardiac rhythm. Several days later after a diuretic injection and increased digitalis, there was a normal rhythm and symptomatic improvement. About 2 weeks later there was a rapid increase in dyspnea, and the patient died at home.

Clinical Discussion

Dr. Jonathan Partain: Since historical references have become fashionable at recent exercises of this sort, I thought it would be appropriate to point out that Galen accurately described the physical characteristics of an aneurysm as early as the second century A.D. and sagely cautioned that "if the aneurism be wounded, the blood is spouted out with so much violence that it can scarcely be arrested." So much for homage to historical medicine.

The clinical history relates the onset of chest pain in this 52-year old postman, known to be hypertensive, while sitting in church. These findings are nicely in keeping with Hirst's excellent review of 505 cases of dissecting aneurysm,[1] in which he found an approximately 3:1 male-to-female incidence, three-fourths of his cases in the 40-69 year age group, little evidence of occupational susceptibility, and frequently a past history of significant hypertension. Activity at the onset of dissection is probably unimportant in the genesis of the dissecting process, and those instances in which pain began at the time of physical or emotional stress are probably coincidental. The intensity of the pain, present in over 90% of cases, is usually very severe, and may well be unrelieved by morphine or other narcotics in ordinary dosage. The location of the pain is equally frequent in the anterior chest and the back, and is important in localizing the site of the dissection, as back pain is most commonly associated with a dissecting process which begins distal to the subclavian artery. As demonstrated by this patient, there often follows a pain-free interval or migration of the pain. On admission to the hospital, he demonstrated the classical findings of differences in blood pressures and pulses, which we have come to recognize as almost pathognomonic for this disorder. We are then told a veritable clinical revelation—"the heart seemed to be normal"; I can conceive of only one equally vague statement comparable to this—namely, if, instead, we had been told that "the heart seemed abnormal". At this point—apparently without benefit of chest x-ray, an oversight which I feel sure Dr. Keats will have more to say about in a moment—the patient was taken to the operating room where the presence of a dissecting aneurysm was confirmed. The site of the primary internal tear, approximately 2 cm. distal to the aortic valve, is en-

tirely in keeping with the usual situation, and we are then told that the dissecting process had extended proximally to the aortic ring, and also distally, but exactly how far in this direction is not known. The type of surgical repair which Dr. Muller carried out—namely, closure of the primary tear and wrapping of the entire ascending aorta with Dacron—deserves comment, as this very patient represents the first successfully repaired dissecting aneurysm of this type.[2] Previous attempts at surgical repair had been directed at creating a "double-barrel aorta" or other less direct approaches. Then, despite a post-operative course complicated by multiple problems, this patient was finally able to leave the hospital doing well, and returned in three months with what may well turn out to be the very first sign of the grim reaper for this patient—namely, the presence of a faint, short diastolic murmur along the left sternal border.

I think it is appropriate at this point to depart briefly from the protocol to discuss the pathogenesis of this disorder, the pathology usually demonstrated, and the prognosis with and without surgical intervention. Regarding pathogenesis, most authorities seem in agreement that an intramural hematoma in the thoracic aorta secondary to rupture of the vasa vasorum is at the bottom of this type of problem, and *not* the intimal tear which was suspected as being the primary problem for such a long time. The hemorrhage is usually located at the junction of the middle and outer thirds of the media, and is usually associated with cystic medial necrosis, a term coined by Erdheim, in which microscopic examination reveals necrosis of the media with cystic softening, dissociation of elastic fibers and generalized distortion of the architecture of the media in the majority of cases. The relationship of dissecting aneurysm in man to lathyrism in rats continues to be intriguing, but has really provided no better understanding of the clinical problem despite much work in this field. The role of hypertension in predisposing an individual to dissection is problematical, for, although the two conditions commonly occur together, well-documented examples of cystic medial necrosis of the aorta and dissecting aneurysm have occurred without a background of hypertension. Braunstein,[3] however, feels that the combination of aortic dilatation due to atherosclerosis and hypertension sets the stage for increasing tension on the intima of the aorta, culminating in the initial perforation of the intima through an atherosclerotic plaque. The area of aorta involved by the dissecting process has made for a classification system popularized by DeBakey,[4] in which: (Type I) dissection begins within 4 cm. of the aortic ring and involves both the aortic arch and the abdominal aorta; (Type II) dissection begins within 4 cm. of the aortic ring but involves only the aortic arch; (Type III) dissection involves only the abdominal aorta. Approximately 60% of cases, including the case under present discussion, fall into either type I or type II category. Now would be an appropriate time to ask Dr. Muller about the operative findings in today's case.

Dr. W. H. Muller: As described in the protocol, the dissecting aneurysm was confirmed immediately upon entering the chest, following which the patient was put on cardiopulmonary bypass. We were able to close the intimal tear without difficulty following transection of the aorta, and could observe that, although the dissecting hematoma had extended to the aortic ring, the aortic valve appeared entirely normal without anatomic evidence of insufficiency. I could not tell how far the dissection had extended distally. Following closure of the aortotomy, the entire ascending aorta was wrapped in Dacron, and cardiopulmonary bypass was discontinued. I felt that the possibility of external rupture had been practically eliminated by this procedure. He subsequently had a favorable post-operative course, and was discharged from the hospital approximately one month after admission.

Dr. Partain: Thank you, Dr. Muller. Surgical treatment of dissection processes of the aorta have assumed considerable importance, since the results of most series of medically treated cases have been so discouraging. In the Mayo Clinic series[5] of cases treated medically, for example—and by medical treatment, I mean sedation and anti-hypertensive measures—only 70% of 50 patients were alive at the end of one day, only 50% alive at the end of one week, and only 35% alive at the end of three months. In contrast to these rather dismal results, several recent surgical series[4,6] have shown much better results following early surgical intervention —for example, of the 12 patients operated early and reported by Austen and DeSanctis, nine survived with an excellent result. Recently several groups have used deliberate hypotension with ganglionic blocking agents instead of emergency surgery as the initial treatment of acute aortic dissection.[11] The answer needs more experience and study.

Well, to return to this particular patient's problem, on re-evaluation three months following surgery we find that despite his doing very well clinically, he had developed a diastolic murmur along the left sternal border, which seems most consistent with the diagnosis of aortic insufficiency, the exact etiology of which I will have more to say about later. He did fairly well, however, for the next five years until he was thought to have developed congestive heart failure, which responded adequately to standard medical treatment. Then he was relatively well again for another two years, when he was admitted for the second and final time. The circumstances surrounding this illness seem to be somewhat vague, but included increasing dyspnea, perhaps related to an increasing amount of postal work. Pertinent physical findings were widened pulse pressure in both arms, a gigantically enlarged heart, murmurs of probable aortic stenosis and insufficiency with one observer detecting the diastolic murmur in the left scapular and apical area, and a pulsatile mass deep at the umbilicus with an associated bruit, consistent with an abdominal aneurysm. At this point, I would like to ask Dr. Keats to see if the x-rays can tell us why this man developed congestive heart failure after he did so well with respect to the initial dissection.

Dr. Theodore E. Keats: The first chest x-ray was taken pre-operatively in 1958, and was not diagnostic of dissection. The mediastinal shadow is not significantly widened, and there is no evidence of fluid at the left base, a finding sometimes associated with leakage of blood from a thoracic aneurysm into the left pleural space. The post-operative chest x-ray shows the modern trend in packaging these days—namely, the ascending aorta is wrapped in plastic. It appears to be a satisfactory examination without other significant abnormality. On the final admission, an abdominal film shows definite aneurysmal dilatation of the abdominal aorta to both the right and the left with evidence of calcification within the wall. Chest films now show cardiomegaly with enlargement of the left ventricle, further dilatation of the thoracic aorta and pulmonary vascular congestion. Old pleural changes are present at the left base. The left atrium is not obviously enlarged. The appearance suggests aortic insufficiency. (See Fig. 1)

Dr. Partain: Is it possible to tell whether this aneurysm of the abdominal aorta is atherosclerotic or dissecting in type on the basis of these films?

Dr. Keats: I cannot say one way or the other. There is no good means from plain films alone of distinguishing these two entities.

Dr. Partain: Let me see if I can begin to put things together at this stage of things. The most important thing seems to be that this patient developed congestive heart failure and aortic insufficiency after the apparently successful repair of a dissecting aortic aneurysm. There is nothing to suggest rheumatic heart disease as the etiology of the aortic insufficiency murmur, and syphilitic aortic involvement would be most unlikely

in the face of a negative serology, and nothing to suggest syphilitic aortitis from gross examination at the time of surgery for the dissecting aneurysm. Endocarditis on the aortic valve could, of course, produce this picture, but the prolonged course would be unusual for such an illness. Hypertensive heart disease can be associated with minimal aortic insufficiency. This leads us back to the relationship of dissecting aneurysm and congestive heart failure again; Gourley and Anderson[7] recorded six cases of chronic congestive heart failure, hypertension, cardiomegaly, especially involving the left ventricle, plus aortic systolic and diastolic murmurs. At post-mortem examination all patients had endothelialized, healed, dissecting aneurysms with the proximal tear at or just above the aortic valve. All hearts were greatly enlarged, especially the left ventricles, but there were no abnormalities of the commissures; the aortic rings were, however, dilated in all instances, in three cases very markedly so. In short, a mechanical kind of aortic insufficiency with intact and virtually normal leaflets had been produced by a distorted aortic ring. A similar case of mechanical distortion of the aortic ring is presented by Spicknall et al.,[8] and I think this situation represents the best explanation for the problem in this case up until the terminal event. From the description in the protocol, the terminal episode could represent arrhythmia, or rupture of the aneurysmal sac into either the abdomen or more proximally. In unwrapped aneurysms of the ascending aorta, rupture most likely would occur into the pericardial sac, or acute re-dissection could involve a coronary artery. One last question comes to mind, however, and before committing myself finally; I would like to know if the heart murmur was ever described as continuous.

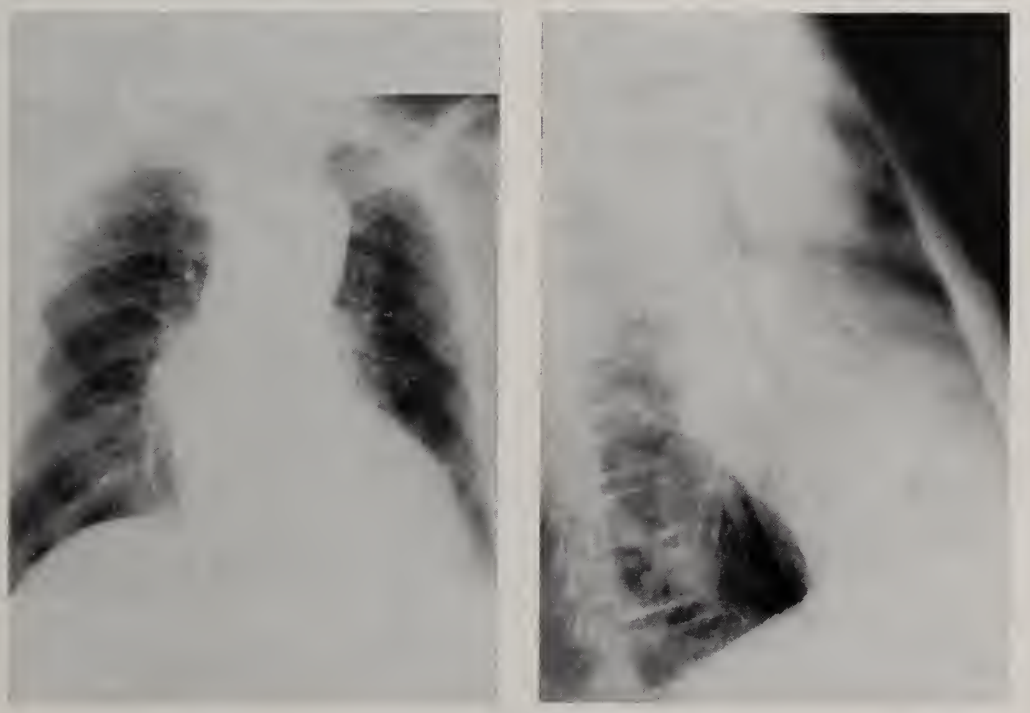


Fig. 1. Postero-anterior and lateral views of the chest taken 8 years after surgery and 11 months before the patient's death show moderate enlargement of the left ventricle and widening of the aortic arch.

Dr. William R. Dandridge: I did not consider the murmur to be continuous; the second sound was well preserved. Why do you ask?

Dr. Partain: Because there have been a few cases of rupture of a dissecting aneurysm into the right atrium[9] and two cases

reported of rupture into the left atrium.[10] Nevertheless, in all cases diagnosed prior to death, a fistulous murmur was heard.

Well, let me summarize by saying that I believe this patient developed further dissection around the aortic ring following his initial repair of a dissecting process in 1958, finally resulting in mechanical aortic insufficiency because of distortion of the ring. As a terminal event, I will predict Dr. Smith will show us eventual rupture of this dissecting process into the pericardial sac, but I base this final decision more on a statistical analysis of the possibilities than anything else.

Dr. Partain's Diagnoses:

1. *Surgically wrapped dissecting aneurysm of the thoracic aorta.*
2. *Congestive heart failure due to aortic regurgitation from dilatation of the aortic valve ring.*
3. *Terminal rupture of dissecting aneurysm into the pericardium.*

Pathological Discussion

Dr. David E. Smith: The aorta was, of course, the seat of the primary and most interesting disease of this case. The exterior of the ascending aorta was wrapped with Dacron and buried in loose fibrous adhesions. On the interior, there were a half dozen or so round or irregular openings up to a cm. in diameter between the primary lumen of the aorta and a false lumen, which had converted the entire aorta into a double-barreled structure. These openings began about 2 cm. above the aortic valve and were confined to the region near the sutures that had closed the original intimal tear. Both the false and true channels were well-endothelialized and had almost the same degree of gross atherosclerosis (Fig. 2). Most of the intercostal arteries came off of the false channel as did the right renal artery, while the ostium of the left renal artery was in the true channel. Beginning just below the right renal artery and extending to the right iliac artery there was a saccular aneurysm of the false channel that measured 8 x 6 x 4 cm. and contained laminated thrombus. The false channel continued throughout the right common iliac artery before there was a union with the true channel. In the right common iliac there was a 2.5 cm. saccular aneurysm of the true channel.

Fig. 2. Descending aorta with a complete second channel on the right side of the photograph. Both channels are lined by arteriosclerotic plaques and the ostium of the right renal artery arises from the false channel in the lower part of the figure.

Microscopically, in the aorta there were fibrous and fatty deposits on the luminal side of the false channel as well as along the true lumen. In addition, three was clear evidence of the deposit of a mucopolysaccharide in the interstices of the elastica in a manner typical of the fundamental change in cystic medial necrosis. This change was not extensive in the final specimen, partially because

of its obliteration by the fibrosis of the false channel.

The heart was markedly enlarged to a weight of 800 gms. Hypertrophy was most

Fig. 3. Heart opened so that the aorta and aortic valve are on the left and the left atrium on the right. A probe passes through a 1 cm. defect in the medial wall of the atrium and into the aorta.

distinct and advanced in the left ventricle and in the left atrium. On the exterior there were, of course, the fibrous adhesions that had resulted from the operation. The valves were essentially normal. The aortic valve, particularly, was not significantly dilated, measuring only 90 mm. in circumference, and its leaflets were quite intact. On the medial wall of the left atrium, there was a fistulous tract almost a cm. in diameter that communicated with the ascending aorta (Fig. 3). This seemed to enter first the false channel, but a probe could be passed through the fistula and into either channel of the aorta, because this was the level of the ostia between the true and false channel.

Evaluation of the age of this aortico-atrial fistula is difficult despite its importance in our interpretations. Microscopic sections of the rim of the fistula show evidences of endothelialization that apparently passed from the aortic lumen into the atrium (Fig. 4). There was remarkably little fibrosis in the adjacent myocardium of the atrium, but there were recently necrotic muscle fibers in this region (Fig. 5). These changes indicate some chronicity of the fistula as well as a more recent active destruction of tissue in this region. The configuration of the aortic valve does not present an adequate explanation for the diastolic murmur heard so long ago in this case. On the other hand, it seems difficult to conceive that a person could have a very significant fistula between his aorta and his left atrium for eight years without even more severe evidences of overload of

Fig. 4. The lip of the left atrial fistula. There is an endothelial lining that, although fractured because of its delicacy, appears to be continuous from the atrial lumen, around the lip of the fistula, and into the false lumen of the aorta. There is practically no interstitial or marginal fibrosis in this area. (H. & E. stain. approx. 120 X.)

the left atrium and ventricle than are present in this case. The lungs, for instance, contain practically no deposits of hemosiderin as one might expect if there had been longstanding, chronic, passive congestion of those structures, and interstitial fibrosis about a chronic fistula would be expected. Furthermore, the clinical history indicates that the patient was in fair compensation for almost seven years after his operation.

Severe terminal evidences of congestive failure in the lungs and liver correlate with this man's markedly decreased strength and increased dyspnea in his last weeks. The necrotic myocardium about the fistula in the atrium suggests that it may have been enlarged during this time. There is sufficient fibrosis throughout the other parts of the myocardium to make one highly suspicious that the cardiac rhythm could have been disturbed and that some form of arrhythmia, provoked by the increasing cardiac failure, was the absolute terminal event.

Other anatomical changes were incidental. The amount of atherosclerosis in the coronary arteries was slight. The kidneys were the seat of a moderate amount of arteriolar nephrosclerosis, as might be expected from the patient's long history of hypertension, and there were a few urate deposits in the interstitium of the kidney, but there was no marked asymmetry of the kidneys that could be ascribed to the interesting arrangement of the renal arteries during the latter years of life.

The results of the autopsy, therefore, support the interpretation that this man rapidly developed a double-barreled aorta following his successful operation for a dissecting aneurysm. The false channel pressed upon the wall of the left atrium and created a fistula resulting in overload of the left side of the heart without marked clinical or anatomic evidences of failure for a number of years. The false channel of his aorta became the seat of fibrotic changes like those of atherosclerosis and even led to the development of an abdominal saccular aneurysm. Finally, during the last year of life, there was increasing cardiac failure and probably enlargement of the aortico-atrial fistula which progressed right up to his terminal event. Exactly when the fistula became patent is difficult to say. The endothelialization of its lip, the long recognition of the diastolic murmur, and the hypertrophy of

Fig. 5. Atrial myocardium near the fistula. The paler areas in which the myocardial fibers are devoid of nuclei represent necrosis and suggest recent extension of the process that created the fistula. (H. & E. stain; approx. 120 X.)

the heart suggests that this may be a process of several years; however, the lack of marked failure until late in the course seems anomalous to that interpretation.

Dr. Muller: I would like to point out that in cases of aneurysms of the sinus of Valsalva, which is an entirely different disease from that of this case, it is not uncommon for a fistula to develop between the aorta and atrium. These patients can tolerate this fistula with relatively few signs of strain upon the heart, so I would admit the possibility that this present patient carried his aortico-atrial fistula from almost the time of his operation.

Dr. Smith: It might also seem that the intricacies of the communication between the true channel and the false channel of the ascending aorta by way of a number of openings might have contributed the basis for a murmur that extended into diastole.

Anatomical Diagnoses:

Operatively repaired and healed dissecting aneurysm with a double-barreled aorta.

Aortico-atrial fistula into the left atrium.

Arteriolar nephrosclerosis.

Hypertrophy and dilatation of the heart, particularly of the left atrium and left ventricle.

Saccular aneurysms of the abdominal aorta and right iliac artery.

Chronic passive congestion of the liver and spleen.

Congestion and edema of the lungs.

References

1. Hirst, Alfred E., Johns, Varner J., Kione, S. Wesley: Dissecting Aneurysm of the Aorta, A Review of 505 Cases. Medicine 37: 217, 1958.
2. Stonesiter, J.: Emergency Correction of Ascending Aortic Dissecting Aneurysm. Surgery 56: 594, 1964.
3. Braunstein, A.: Pathogenesis of Dissecting Aneurysm. Circulation 28: 1071, 1963.
4. DeBakey, M. J. et al.: Surgical Management of Dissecting Aneurysm Involving Ascending Aorta. J. Cardiovas. Surg. 5: 200, 1964.
5. McCloy, R. M., Spittell, J. A., & McGoon, D. C.: Prognosis in Aortic Dissection. Circulation 35: 665, 1965.
6. Austen, W. G. & DeSanctis, R.: Surgical Treatment of Dissection of Aorta. New England J. M. 272: 1314, 1965.
7. Gourley, B., & Anderson, E.: Chronic Dissecting Aneurysm of the Aorta Simulating Syphilitic Cardiovascular Disease; Notes on the Associated Murmurs. Ann. Int. Med. 14: 978, 1940.
8. Spicknall, C. G. & Binford, C. H.: Healed Dissecting Aneurysm of the Aorta with Signs of Aortic Insufficiency; Case Report. Mil. Surg. 102: 47-49, 1948.
9. Dulake, M. & Ashfield, R.: Dissecting Aneurysm of the Aorta with Rupture into the Right Atrium. British Heart J. 26: 862, 1964.
10. Beck, Walter et al.: Aortic—Left Atrial Fistula. Am. J. Cardiol. 14: 717, 1964.
11. Harris, P. D., Malm, J. R., Bigger, J. T., Bowman, F. P., Jr.: Follow-up Studies of Acute Dissecting Aortic Aneurysms Managed with Antihypertensive Agents. Circulation 36, Suppl. I, 183, 1967.

Diagnostic Laboratory Medicine....

An Evaluation of the Serological Diagnosis of Rocky Mountain Spotted Fever at M.C.V.

This study is an attempt to ascertain the value of the serological reactions in establishing the diagnoses of Rocky Mountain Spotted Fever. It has long been accepted that antibodies to *Rickettsia rickettsi,* the causative agent of spotted fever, will agglutinate certain strains of Proteus designated as OX19 and OX2. However, the interpretation of the results of this reaction is often of questionable value because of the lack of information on the sensitivity and specificity of the test when used in Virginia. Thus, any information that demonstrates the frequency and titre of these antibodies in the local population would be of aid in establishing the true value of the test results as a diagnostic tool.

Table I demonstrates the number of positive and negative titers obtained in the period November, 1958, to June, 1964, for OX19 and OX2 agglutinins. As can be seen from this table, 8.8% of the individuals tested gave positive agglutinations for OX19 but only 0.5% had titres of 160 or over. The OX2 data are based on a lower total number because this procedure did not come into routine use until late in the period. However, it is interesting to note that 35% of the tested population demonstrated a positive agglutination and 6% had titers of 160 or over.

Table II shows the serological data ob-

TABLE II

Serological Data From 45 Diagnosed Cases of Rocky Mountain Spotted Fever*

Case Number	Proteus OX19 Titer	Proteus OX2 Titer	R.M.S.F. Complement-Fixation
1	80	2560	N
2	160	N	2048
3	0	640	8
4	320	40	N
5	0	0	32
6	640	0	N
7	0	80	N
8	0	N	N
9	320	640	N
10	0	N	N
11	0	0	8
12	80	N	N
13	80	40	N
14	160	80	N
15	20	40	N
16	160	80	256
17	160	80	0
18	160	1280	N
19	0	N	0
20	40	640	N
21	80	0	N
22	160	320	N
23	160	320	256
24	80	N	N
25	0	N	N
26	80	2560	N
27	160	40	N
28	0	N	N
29	40	0	1024
30	640	0	N
31	80	320	N
32	40	320	N
33	0	N	N
34	80	640	N
35	80	N	N
36	0	0	64
37	80	0	16
38	20	N	N
39	160	1280	N
40	40	160	128
41	40	0	N
42	40	0	32
43	80	N	N
44	0	N	N
45	40	160	N

N—Not done.
*All titers are highest found on the chart.

TABLE I

Incidence and Titer of 5,000 Hospital Patients for Proteus OX19 and OX2 Agglutinins

Proteus OX19 Titer	0	1/40	1/80	1/160	1/320	1/640+	Total
Number of Patients	4605	284	85	11	10	5	5,000
% of Patients	92.1	5.7	1.7	0.2	0.2	0.1	
Proteus OX2 Titer	**0**	**1/40**	**1/80**	**1/160**	**1/320**	**1/640+**	**Total**
Number of Patients	459	130	73	31	9	2	704
% of Patients	65.4	18.4	10.3	4.4	1.2	.3	

tained from 45 cases with the final diagnosis of Rocky Mountain Spotted Fever which occurred during the period under consideration. It is beyond the scope of this article to judge the correctness of the diagnosis or the correctness of the clinical criteria used to make the diagnoses. However, a point that can be stressed is that more diligent use of serological tests such as complement-fixation would place the diagnoses on firmer ground. A good example of this point is case 5 in which the OX2 and OX19 agglutinins were negative and the complement-fixation test for Rocky Mountain Spotted Fever was positive to a titer of 1 to 32. A complement-fixation test for Rickettsialpox was also done on this individual and gave a titer of 1 to 128. This titer with the absence of OX2 and OX19 agglutinins strongly indicates that the disease was Rickettsialpox and not Rocky Mountain Spotted Fever.

When the names from Table I were matched with Table II, it was surprising to find that only 13 of the 26 individuals of Table I, whose titer was 160 or over, were actual cases of spotted fever. The specificity of the OX2 reaction was even less for 42 individuals had OX2 titers of 160 or above, but only 14 of the 42 individuals were from diagnosed cases.

It was also noted that in only ten cases was a rise of titre in Proteus agglutinins demonstrated. However, there were many cases in which a second Weil-Felix reaction was not done. In two cases there was no increase in Proteus agglutinins in spite of repeated testing. In two other cases, 29 and 36, the serological confirmation was by complement-fixation tests, the agglutination reaction being negative or of lower titer.

The presence of Rickettsialpox in Virginia coupled with the lack of specificity and in some cases, sensitivity of the Weil-Felix reaction provides ample reason for performing complement-fixation tests on all suspected cases of Rocky Mountain Fever. The evidence presented here suggests that the Proteus agglutination tests can be used only as a guide for the probable diagnoses and that the more definite tests such as the complement-fixation test for Rocky Mountain Spotted Fever and Rickettsialpox be performed routinely on all clinically suspected cases of Rickettsial infection. In order to gain the maximum amount of information, it is recommended that three serum samples be submitted to the laboratory. The first sample as early as possible, the second sample during the second week of the illness and the third sample four to six weeks after onset.

H. P. Dalton, Ph.D.
M. J. Allison, Ph.D.

Division of Clinical Pathology
Medical College of Virginia
Richmond, Virginia

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Quarantine and/or Enforced Isolation for Tuberculosis in Virginia

Anyone who, in the judgment of a local health director, has tuberculosis in a *dangerously* communicable form is subject to quarantine or enforced isolation, in the interest of the public's health. The key word here is "dangerously" for this indicates that in his existing environment, and/or because of his behavior pattern, the patient's degree of infectiousness poses a definite hazard of infection to susceptibles with whom he comes in close or repeated contact.

The person served with an order of quarantine may appeal within fifteen days to the State Health Commissioner, or to the courts, for annulment of the order. Every health director has been urged, indeed admonished, never to issue an order of quarantine except under circumstances he can easily defend before his peers, as being clearly in the interest of public health. It is used only as a last resort when education and persuasion have failed.

If the patient fails to obey an order of quarantine, in the absence of appeal, or of successful appeal, he may be charged with a misdemeanor, for which offense he is liable to commitment to "such place as the court may designate" for a period of not more than one year. In practice, this place is the State Farm.

The State Health Commissioner approves the site selected by the local health director as a suitable place of quarantine. The Commissioner has given blanket approval to all of the State Sanatoria, but individual approval must be obtained for any other location, whether in the home, or in another hospital. The State Farm cannot be designated in the quarantine order as a "suitable place of quarantine". A sanatorium superintendent is not required to accept a patient under quarantine if the patient's previous record in that sanatorium, or elsewhere, is such that his presence can almost certainly be expected to have a demoralizing influence on other patients; the sanatorium superintendent is personally responsible for overall discipline.

There are no quarters in any of the sanatoria to physically restrain a patient under quarantine.

A patient remains under quarantine until he meets agreed-upon minimal criteria for the lifting of same; his quarantine can be temporarily lifted by the Commissioner, in case of certified emergency. In rare instances he may be retained for a longer period, for *specific public health* reasons, which the health director is prepared to defend in court. Lifting of quarantine may *not* be delayed because of a history of social misconduct, even though theoretically this might eventually render the patient dangerously communicable a second time. If upon discharge he again becomes dangerously communicable, he can again be quarantined; it should be emphasized that he *cannot* be retained past the point of meeting the minimal criteria for the lifting of the quarantine, merely because of his previous behavior pattern.

If a local health director feels there is good reason to suspect that a person has tuberculosis in a dangerously communicable form, he can quarantine such patient until the latter is able to supply acceptable certification of his non-infectiousness, either from his private physician or a chest clinic.

Close contacts to communicable cases of tuberculosis who refuse to be examined are not categorically subject to quarantine as

"suspects". However, any adult known to be a close associate of an infant or small child found to have a positive or doubtful tuberculin can be required to have an examination as a possible source case responsible for the child's infection, provided no other likely source can be found within a reasonable period of time.

The legal basis for these provisions may be found in Sections 32-85.1 through 32-85.6 of the Code of Virginia.

In the extremely rare event that a patient is unacceptable in any institution, and has no home to which he can be quarantined even temporarily, enforced isolation can be achieved by resort to Section 32-50 which provides for exclusion of a person with diseases in communicable form from public places. Such an individual can be committed directly to the Farm for not more than three months. This law is not applicable to suspects.

* * * * *

Growing recognition that many newly diagnosed cases of tuberculosis, even with advanced disease, can be rendered non-infectious in a public health sense, after a few weeks only of intensive anti-tuberculosis drug therapy, introduces a complicating factor in the practical application of quarantine. Tubercle bacilli which cannot be successfully cultured can sometimes be observed in smears of concentrated sputum, at the end of this course of intensive therapy.

To date acceptance by physicians of such documented evidence as is available, to the effect that such intensely treated patients are no longer *dangerously* communicable, though fairly widespread, is not universal.

The wise local health director will bear this modern concept in mind, when considering the invoking of quarantine, and particularly with respect to the lifting of quarantine. It has been suggested that he consult with a chest specialist before taking official action in any case of doubt to make sure he has at least some authoritative support in the event his action is challenged.

Monthly Report of Bureau of Communicable Disease Control

	Apr. 1967	Apr. 1966	Jan.-Apr. 1967	Jan.-Apr. 1966
Brucellosis	1	4	12	7
Diphtheria	0	0	0	0
Hepatitis	103	60	265	251
Meningitis (Aseptic)	0	1	3	2
Meningococcal Infections	3	15	17	36
Poliomyelitis	0	0	0	0
Rocky Mt. Spotted Fever	1	0	1	2
Rubella	150	149	293	462
Rubeola	577	473	1347	1022
Streptococcal Infections	1636	2167	6551	5750
Tularemia	0	0	0	2
Typhoid Fever	0	1	2	6
Rabies (In animals)	46	34	108	129
Venereal Diseases				
Syphilis	197	179	732	595
Gonorrhea	743	664	2886	2541
Other	3	1	[illegible]	7

Mental Health . . . .

BENJAMIN WINSTEN, Ph.D

Working Concepts of Personality Development: A Case Study

The Virginia Mental Health Study Commission[1] reports that mental illness is a major health problem in the State. Moreover, the rate of these disorders is on the rise. To meet these problems the Commission calls for the development of new ideas and methods for both preventive and remedial treatment. On the same theme, Stevenson[2] in a recent article in this Journal emphasizes the goal of raising the level of mental health services by means of "new knowledge derived from scientific research about the nature of human personality".

Persons troubled with life difficulties may find their way to different helping people in the community, e.g., physicians, social workers, educators, clergymen, judges, probation officers, psychiatrists and/or psychologists. The diverse viewpoints of these specialties tend to fragment the individual into biological, psychological or social categories. Yet the human organism—well or sick—is always a unity of soma, psyche and social role. An integrating set of concepts concerning the human personality which can be understood as a common language among the different specialists in the community appears to be a current need for further progress in mental health research and practice.

With this purpose in mind, the writer has developed a working theoretical model of human motivation and development. Sanford[3] has aptly stated that "There is nothing quite as practical as good theory and nothing so good for theory making as direct involvement with practice." It is believed that the theory proposed in this paper can be of aid in mental health work and in turn be improved by it.

Motivation

Professional people, who work in a helping relationship with children or adults, are constantly faced with a common basic problem—that of human motivation. They may ask themselves, "What are the inner causes for the unhappiness and disturbed behavior of this particular person?" Valid answers to such questions are required for scientific understanding and for effective remedial measures.

Such an inquiry was raised by a teacher and a principal concerning Paul, a nine year old boy in the third grade. Paul, a chubby youngster with a fixed serious expression, was referred for psychological study because of his learning difficulties and his disturbing behavior in class. He was not doing grade level work and seemed unable to follow the teacher's directions. He often sought her attention by such devices as shouting answers out of turn or singing louder than the other children. With his peers he showed patterns of timidity and withdrawal. Instead of participating in group games during recess, he would hover close to his teacher. On the few occasions he attempted to join in the games, his movements were awkward and his performance poor. He refused to eat with the other children in the school cafeteria. He had begun to show an unhappy reluctance upon leaving for school in the morning.

The social history revealed that Paul had been slow in developing walking and talking skills. As he grew older he preferred staying indoors with his mother to playing outside during the day. He would cry readily

WINSTEN, BENJAMIN, Ph.D., *former Psychological Consultant to the Newport News Public Schools.*

Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

when corrected or reproved. He often sought reassurance and affection by kissing and bodily contacts with his mother. He would seek similar closeness with visitors in his home. On a number of occasions he hugged complete strangers on the street.

In contrast to these dependency reactions, Paul showed a positive pattern of behavior. Given the opportunity, he would respond in a helpful and comforting way to smaller children who were troubled or hurt. During the psychological interviews Paul talked with evident pride about such occasions. "I like to help people", he would say.

Paul's teacher sought to explain his maladjusted classroom behavior with the statement "He lacks self-confidence". There is an emerging scientific concept of human motivation which is related to such a common sense insight. It is variously termed the self-picture, ego-image, self-concept. Such motivational expressions denoting the different ways in which an individual thinks about himself are now found in both popular and scientific writings.[4] These terms seem to be well suited for communication among professional people in different fields and between specialists and laymen.*

Ego-image is a composite concept. It can be made more useful in explaining behavior by analyzing it into discrete ego-images which are linked to specific behavior patterns. Since we do not have a systematic language for ego-images, terms adopted from the common domain will serve. For example, the ego-image, I-am-loved is built up in the child by the nurturing activities of the mother. The opposing ego-image, I-am-unloved stems from separation and other depriving experiences. In the mentally healthy individual there is an optimal balance between opposing ego-images. Other paired ego-images can be specified as follows: I-am-safe—I-am-in-danger; I-am-good—I-am-guilty; I-am-able—I-am-unable; I-am-independent—I-am-dependent; I-am-equal—I-am-inferior; I-belong—I-am-rejected; I-am-fairly treated—I-am-abused; I-am-pleaser—I-am-aggressor; I am-male—I-am-female. Specific life experience influence the development of these discrete ego-images which in turn motivate responses to one's environment.

These motivational concepts throw light on Paul's behavior. His developmental retardation in walking, talking and academic skills were initially related to an identified somatic factor. Psychiatric and psychological diagnoses concurred in the finding of mild diffuse brain damage. Paul's many failures to master his environment during early childhood greatly intensified his ego-image, I-am-unable.

Paul suffered a moderate degree of personality imbalance in his ego-images, I-am-able—I-am-unable. Much of his behavior was symptomatic of this imbalance. Thus we can understand his avoidance of assigned school tasks, his compensatory seeking of approval with inappropriate performances, e.g., shouting out answers in class, singing louder than other children, his refusal to join in the games of his age mates.

Environmental events related to Paul's handicap reinforced other negative ego-images. Maternal over protection towards a child who needed special help intensified the ego-image, I-am-dependent. His dependent behavior and his learning difficulties elicited many correcting responses by parents and teachers. Misinterpreting such treatment, Paul developed an exaggerated ego-image, I-am-unloved. This imbalance accounts for his frequent crying and for his compulsive pattern of seeking attention and love. In Paul's ego-images, I-am-pleaser—I-am-aggressor, an imbalance towards the former was indicated by his passive and ingratiating behavior as well as by his responses on the Rorschach personality test.

*The term self-image was utilized in a significant statement on personality development by Superintendent H. I. Willett of the Richmond City Schools in his discussion of the importance of early childhood education at the recent Tidewater Regional Governors' Conference on Education. He emphasized that "the creation of a self-image is very difficult unless a start is made early. . . "

An intervening variable in the etiology of Paul's mild motor dysfunction is the concept of body-image. This concept was developed by Schilder[5] and recently reviewed by Koble.[6] These writers localized body-image processes in the cortex and related them to the more differentiated ego functions in both health and disease. The present writer views body-image and ego-image as cognate concepts which can serve to systematically correlate somatic and personality functions.

The Developmental Process

The human organism by means of somatic differentiation and integration in the course of its embryological development becomes a functioning system. At birth the focus of the processes of differentiation and integration is shifted to the personality "structure". Development thereafter takes place predominantly in psychological and social functions such as skills, ego-images and roles. In this perspective, mental health is seen as optimal self-realization at any given life stage—and mental illness as some gross failure in the developmental process. In between there are all degrees of self-realization and corresponding gradations of mental health and illness.

As a direct result of his somatic defect, Paul was unable to master developmental tasks, e.g., walking, talking, visual-motor coordination, concept formation—normative to his successive age levels. The delays in functional development restricted his interactions with his environment in the home, school and neighborhood. Consequently the unfolding of his personality was retarded.

A systematic account of how environmental stimulus events articulate with the developmental processes of the human personality remains a frontier problem in the behavioral sciences. The importance of such knowledge in the field of mental health is underscored by Alexander,[7] "The understanding of the dynamic interaction of the self with the social environment is in itself a goal . . . (that) could occupy the productive capacities of many generations to come." In the meantime we must seek progressively closer approximations.

Development occurs in the course of the diverse day by day encounters—for good or for ill—between the person and his environment. For the purpose of analyzing this process a behavioral unit of development—the *episode*—is useful. A few typical events from Paul's social history are here summarized to illustrate such episodes.

Mother approaches Paul (age 6) as he enters the house crying. She inquires, "What is the matter, Paul"? He answers, "Johnny wouldn't let me play kick ball with him—he says I don't know how." Mother protectively holds him close and tells him to stay indoors with her.

Mother requests Paul (age 8) to copy a word from his homework assignment. Paul writes it very illegibly. Mother urges him to write better. During a series of several such episodes, mother's tone becomes successively sharper. In the last episode Mother scolds Paul. He cries and mother leaves him.

Dad demonstrates basketball shot and tells Paul (age 9) "Now you do it". Paul throws ball and misses. Dad says in a friendly tone, "You were pretty close, try again". In a series of several such episodes, Paul has two or three successes. Dad gives verbal approval after each successful performance.

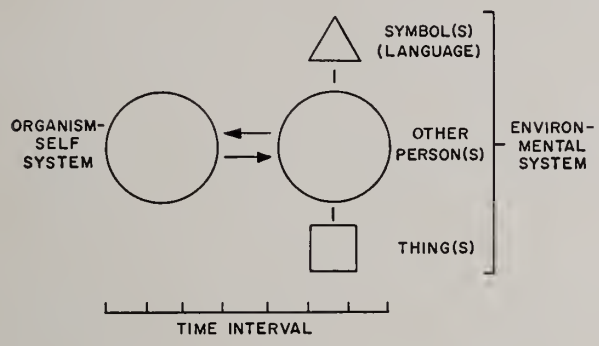
Mother tucks Paul (age 10) into bed and kisses him goodnight. Paul holds mother and entreats her to stay. Mother lies down beside him and remains until he falls asleep.

Special education teacher approaches Paul (age 11) who is helping a younger child read a selection assigned by her. Paul tells the teacher that the child has completed the selection. Teacher says, "Good—thank you for helping him".

An episode may be diagrammed as follows:

An episode involves a phased transaction

between two systems, the person and his environment, within a given time interval. The phases of the transaction can be speci-



fied as follows: an action of the environment on the self (for example, the stimulus pattern of the father demonstrating how to throw a ball into a basket, and words of praise after a successful throw); an action of the self on the environment (attending to the father's demonstration executing a successful throw); concurrently with these external actions, an internal developmental action (learning of a manual skill, identification with the father and reinforcement of the positive ego-image, I-am-able). It is usually the cumulative effect of a series of related episodes which results in a noticeable developmental change.

The development of a human being takes place in social groups of which he is a part, Parsons'[8] formulation of the sociological concept of *role* throws light on this relationship. Family, school, church, playgroup, workgroup, etc., create specified positions (roles) within the group for different members. Specific role performances in successive episodes serve to reinforce ego-images (motivations) which enable the individual to live adapatively in his social environment. The psychological concepts of discrete ego-images and episodes articulate with the sociological concept of role behavior. By means of analysis of a given life history into episodes, a cause and effect account can be obtained of the individual's development towards mental health or mental illness.

Treatment

Mental health treatment, remedial or preventive, is viewed as a planned episode sequence which facilitates the individual's personality development. In this process the growth and improved balance of the ego-image system enhances the person's effectiveness in dealing with his environment. Psychotherapy is a familiar mode of treatment, milieu therapy* is an emerging one. The former consists of episodes, in the context of a helping relationship, of language transactions concerning the patient's life difficulties, successes and goals. In the latter, activities in the normal day-by-day environment of the individual are planned to facilitate personality development. In the perspective of episode planning, milieu therapy appears to have new applications in community mental health programs. Systematic exploration of such applications offers the opportunity to combine practice with the development of personality theory.

Paul's treatment was environmental. Because of the high frequency of unsuccessful learning and social experiences in the third grade, a transfer was considered desirable. A class for special learning disabilities offering a small group situation and a highly competent and empathetic teacher was selected. In conferences between the teacher and the psychological consultant, information was reviewed concerning Paul's assets, learning difficulties and special needs. The teacher planned a balanced program of group and individualized instruction for him. A series of counseling sessions were conducted with the parents. These were directed towards helping them to cope with their own anxieties concerning their son and to modify some of their rearing practices with him. The subsequent changes in Paul's school and home environment increased the frequency of growth facilitating episodes and decreased the frequency of growth

*A valuable theoretical book concerning milieu therapy has been written by the Cummings[9] as applied to treatment in hospitals and clinics.

retarding episodes. In this new regimen, Paul showed progressive improvements in both learning and personal adjustment.

At age 14 he entered high school. Here his teachers, inspired by a thoughtful and innovative principal, worked out a special program in which Paul was able to achieve at his best potential as a "slow learner". During the current year, at age 18, he is enthusiastically participating in a work-study program. He is assigned as a physical therapy aide in a school for handicapped children.

Although Paul's special learning disabilities places the regular academic program out of his reach, he has approximated his own optimal level of personal development. For example, in contrast to his earlier dependent behavior, Paul, on his own initiative sought an interview and secured a work assignment. These brief excerpts from a recent psychological interview will give an indication of his maturity and intellectual functioning. "When I work with a child, I put myself in his place—this helps me to know how to help him. . . I still have lots of negative feelings about myself—when I help a child it helps me build up a positive image of myself." Paul is eligible for a high school certificate at the end of this school year.*

*Diagnosis and planning for Paul were a continuing inter-disciplinary procedure over the years. Collaborating were the director and staff of the local mental hygiene clinic, public school teachers, principals and visiting teachers, the superintendent and staff of a special school for handicapped children, Paul's parents and the writer as psychological consultant.[10]

Summary

Planned environmental manipulation offers a rich potential resource for the improvement of mental health programs. Such techniques can greatly increase the effectiveness of the school in its preventive mental health role with all children. A set of concepts for systematically relating environmental factors and personality development has been proposed in this paper. These concepts can serve as a common language between educators and clinical workers in inter-disciplinary mental health services and research.

References

1. Report of the Virginia Mental Health Study Commission to the State Mental Health Authority, Richmond, Virginia, 1965.
2. Stevenson, Ian: The Need for Research in Mental Illness in Virginia. Virginia M. Monthly 94: Feb., 1967, pp. 104-106.
3. Sanford, Nevitt: Self and Society. New York: Atherton Press. 1966.
4. Wylie, Ruth C.: The Self Concept. Lincoln: University of Nebraska Press. 1961.
5. Schilder, Paul. The Image and Appearance of the Human Body. New York: John Wiley and Sons Incorporated. Science Editions, 1964.
6. Kolb, Lawrence C.: Disturbances of the Body Image. In Arieti, Silvano. (ed.) American Handbook of Psychiatry. New York: Basic Books. 1959.
7. Alexander, Franz: Psychoanalysis in Western Culture. Am. J. Psychiat. 112: 1955. p. 692.
8. Parson, Talcott: Boundary Relations Between Sociocultural and Personality Systems. In Grinker, Roy R. (ed.) Toward a Unified Theory of Human Behavior. New York: Basic Books. 1958.
9. Cumming, John and Cumming, Elaine: Ego and Milieu. New York: Atherton Press. 1962.
10. Winsten, Benjamin: Definition of Services of the Psychological Consultant to the Newport News Public Schools. Mimeo. 1964.

Miscellaneous . . . .

The Medical Assistant Is an Important Key to Public Relations in the Doctor's Office

Good public relations is a state of mind.

Why is there so much emphasis upon good public relations these days, especially in the medical field?

First: There should be harmony between the physician and the Medical Assistant. Where there is harmony, the patient is usually easier to talk with and more satisfied when he leaves the doctor's office. Second: Business and industry have conditioned American people to believe that the customer is usually right and should be given what they desire. The same applies to patients when they enter the doctor's office.

Therefore, this is the Public Relations challenge to the Medical Assistant. The way you answer the doctor's telephone has a lot to do with the patients' reaction when they enter the office. Your voice and your manner must always convey your interest and concern with the patient to whom you are talking. You are the first person a patient sees when he enters the office, and the last one he sees when he leaves. Your personal contact has a large bearing on the attitude of the patient toward the doctor. You can be the doctor's greatest public relations asset or you can be his biggest liability. This is why it is especially important for the Medical Assistant to maintain Good Public Relations with each patient. You will help the doctor keep his old patients, gain new ones or lose the ones he has by the way you run his office.

Personality is most important—you can help create an atmosphere of friendliness, warmth and good will in the office by being pleasant, polite, neat, honest, cooperative, have a sense of humor and many, many more. Even if you are an introvert or an extrovert you can still provide kindness, understanding and sympathy in the doctor's office.

Sometimes, it is not what you say but how you say it, that makes your day run more smoothly.

LONIE KANAK, *Chairman*
AAMA Public Relations Committee

AMA Convention

Approximately 35,000 persons, including 12,000 physicians, are expected to attend the American Medical Association's annual convention in Atlantic City, June 18-22. The program appears in the May 8th Journal of the American Medical Association.

Traditionally the world's largest medical meeting, the convention will feature scientific sessions covering virtually every medical specialty. More than 400 papers will be presented.

Atlantic City Convention Hall will be the site of many of the scientific sessions, more than 250 scientific exhibits, and an extensive motion picture and television program. Other scientific sessions will be in a number of hotels.

Milford O. Rouse, M.D., Houston, Texas, will be installed as the AMA's 122nd president, succeeding Charles L. Hudson, M.D., of Cleveland, Ohio. Installation ceremonies will be at 5 p.m. Tuesday, June 20, in the Pennsylvania Room of Haddon Hall.

A convention highlight will be the Seventh Multidiscipline Research Forum. Forty-eight papers will be presented by researchers from a variety of medical specialties.

Editorial . . . .

The Dilemma of Nursing

THE FOLLOWING almost incredible statement in reference to the training and shortage of nurses, made to the author by a dean of a collegiate program of nursing, symbolizes the rift between the professions of medicine and nursing: "I am sorry we cannot anticipate physicians' working with us for the improvement of patient care, especially with a willingness to look at all sides of the picture".

Because of the myopia of organized nursing, the shortage of nurses will get worse before it gets better. This myopia has been nurtured by the indifference of the medical profession to the problems, economic and professional, of nurses and of their training.

Professional nursing cannot be divorced from the practice of medicine; the physician is as much responsible for the nursing his patient receives as he is for this patient's drugs. Any talk about nursing as an independent profession is folderol. The physician-in-charge is the captain of the ship, and his ultimate authority and responsibility for those aboard his ship are absolute.

The rift between the two professions stems largely from differences in opinion as to the education and training of nurses. Most grass-roots physicians still believe that the hospital training school produces the best bedside nurse at the lowest cost. Organized nursing, as represented by the American Nurses' Association and by the National League for Nursing, favors the college campus for her training, with large doses of liberal arts. The trend is clearly in this direction, and it is the expressed purpose of a large segment of organized nursing to do away with most other kinds of nursing programs, including the time-honored effective hospital school.

Improving the popular image of nursing must be a large factor in such a stand, especially since some studies indicate that the collegiate-trained nurse is no better than, or even not as good as, the traditionally trained one[1], or that the university atmosphere in which she has been trained actually *unfits* her for the necessary routine of daily hospital practice[2]. That collegiate courses in psychology, sociology, and anthropology increase one's compassion and improve one's "interpersonal relationships" is at best doubtful. Nursing's move to the campus may be nursing's response to that great American neurosis of a college education for everybody.

Any attempt to mix a curriculum of liberal arts with professional subjects is likely to short-change both. *Education* and *training* must be clearly differentiated. No one can receive too much *training* for his calling. A certain level of *education,* however, WHEN MADE A REQUIREMENT, can be excessive.

Such an excessive required level of education in nursing leads to several bad results: 1. Fewer enter nursing because of the high cost of a collegiate program. 2. Fewer enter nursing because of the prolonged preparation. 3. Fewer nurse-practice years are available to the community because of the longer preparation. 4. A higher cost for nursing services accrues to the community because nurses so prepared must expect a higher financial reward, despite the lack of clear evidence that their services are superior to those of the traditionally trained hospital school nurse. 5. Nurses so trained tend to abandon the bedside and to enter administration, teaching, public health, or psychiatry, either from appreciation of their own inadequacies at the bedside or because of their discontent with the unavoidable day to day routine of much hospital practice. 6. Many young people who give promise of making excellent nurses because of certain natural qualities are dropped by the wayside of a rigorously oriented academic program. The sum of these considerations is fewer nurses at the time of desperate need.

Those girls who can "cut the mustard" in un-watered-down collegiate courses in the basic sciences and who are interested in significant "problem-solving" at the clinical level are invited to enter medicine. Those girls who thirst for the Pierian spring are exhorted to drink deep there—before, during, or after their nursing training.

Unless medicine is content that "doctors are no longer allowed to assess the nursing needs of their patients but that this will be done by some kind of university-trained nurse, who will claim that only she can assess nursing needs, ignoring the fact that she is not a doctor and not a particularly useful nurse, simply an uneasy mixture of "half-baked doctor and half-baked nurse" [1], medicine must step into the breach and play a significant role in the training of nurses.

Hale[3] outlined some of the steps that we doctors can take: 1. The continued existence of good hospital training schools should be urged. 2. Additional hospital nursing schools where there is adequate clinical material should be established. 3. Additional collegiate programs of nursing should be established. The need for nursing academicians, executives, and administrators is bound to increase. 4. The hospitals in a given locality or state, as a group, should stop seeking accreditation from the National League for Nursing unless it changes its present policies, and should substitute an accreditation program by the American Hospital Association (in conjunction with the American Medical Association). 5. State and Federal aid for the establishment and support of hospital schools should be sought where necessary.

We physicians must bear most of the responsibility for the present deplorable state of nursing shortage. If we had stood firmly aside our fine nursing colleagues in resisting their exploitation that started often with their first day of training and never ended throughout their professional career, and if we had supported over the years their eminently fair demands for economic and professional recognition and advancement, the present sad state would never have come to pass. The time alloted

us physicians for making amends is limited. If you don't believe it, read *Nursing For The Future,* by Dr. (Ph.D.) Esther L. Brown, Russell Sage Foundation, 1948.

References

1. Graham-Marr, J. H.: Letter to the Editor. New Eng. J. Med. 276: 185, Jan. 19, 1967.
2. What Kind of Training is Best for Nurses? World Medical News, p. 48, Jan. 6, 1967.
3. Hale, T.: Problems of Supply and Demand in the Education of Nurses. New Eng. J. Med. 275: 1044-1048, Nov. 10, 1966.

Christian V. Cimmino, M.D., F.F.R.

The Isolated Patient and Public Relations

THE EXCELLENT ARTICLE by Kunin and Henley of Charlottesville, captioned "Isolation Procedures for the Community Hospital", in the April 24 issue of the JAMA, should be read by every physician who has occasion to treat hospitalized patients. The rules appear to be sensible and practical. Seventeen community hospitals in Virginia were queried as to the procedures followed in these institutions. The replies were fairly uniform, probably more than one would have anticipated, for hospitals, like the physicians who use them, frequently tend to be individualistic.

If hospital infections are carefully collected and properly interpreted it is possible to learn much about the general standard of patient care in a given institution. If the figures are not listed correctly, the results are worthless at best and may be actually misleading. The rules established by the Infection Committee determine to a large degree the cooperation of the staff. Common sense regulations are essential to promote a willingness on the part of the physician to carry out the necessary rules that are often onerous.

If the Infection Committee has a goodly number of clinical physicians to leaven the group, the staff will respond more readily to the dictums of the committee. On the other hand, a committee composed largely of non-clinical members, and especially one that contains many from the ancillary services, places an additionally heavy burden on the practicing physician or surgeon who has to deal with the patient and his family. The public relations inherent in the isolation of a patient with an infection is unquestionably the poorest that one has to deal with in any hospital. This is doubly true if the infection develops while the patient is in the hospital.

The patient feels that he is arbitrarily separated from the rest of mankind and he is being punished for no wrong-doing on his part. His family visits him only at intervals and if he is not able to procure a special nurse, all too often he is left severely alone by the floor nurses,

aides and orderlies. His own physician does not relish the ritual of leaving his coat in the hospital corridor, where his pockets may be rifled, while he dons a gown, mask and gloves in order to exchange a few words with his patient. He also discovers, especially in the winter, that the solution with which he must wash his hands frequently removes the outer layer of epidermis. The patient, meanwhile, leads a lonely life and has ample time to wonder if he has been told the entire story about his condition and whether his hospital insurance will cover the cost of a single room—which it usually does not.

The members of the immediate family may be admitted for short periods of time but they too must don the white robes of righteousness and are told not to approach the bed too closely. The word *infection* carries with it an unpleasant connotation and wives of a suspicious nature have been known to speculate on how and where their spouses contracted the infection. The relatives are naturally concerned and they usually decide to telephone the physician late at night, or early the next morning, to learn how the prisoner is progressing and when he will be released.

The only group that seem to relish the isolation of a fellow creature is the nursing staff on the floor in question. If the nurses are the first to receive the news from the bacteriological laboratory it appears to give them a certain melancholy satisfaction and perhaps a touch of ego to write the initial order for isolation. But after the white cart is parked outside the door of the victim and the banns are posted, the nurses speedily lose their initial ardor and figuratively wash their hands of the whole affair. Unquestionably an isolated patient does not receive the care he deserves unless he is able to obtain special nurses.

Kunin and Henley have prepared a very workable routine, but they did not touch on the financial hardships and the public relations that suffer when a patient is isolated. If they will publish another equally good article dealing with these aspects of isolation we will all be further indebted to them.

H. J. W.

News . . . .

Calendar of Events

Medicine and Religion Symposium—Sponsored by AMA Department of Medicine and Religion, University of North Carolina School of Medicine and Medical Society of the State of North Carolina—Chapel Hill, North Carolina—June 11-13, 1967.

Seaboard Medical Association—72nd Annual Meeting—Carolinian Hotel—Nags Head, North Carolina—June 15-18, 1967.

Ninth Annual AMA Pre-Convention Session on School Health—Chalefonte-Haddon Hall—Atlantic City, New Jersey—June 18, 1967.

Annual Meeting of American Medical Association—Atlantic City, New Jersey—June 18-22, 1967.

Medical Aspects of Sports Conference—Sponsored jointly by The Medical Society of Virginia and Virginia High School League—Virginia Polytechnic Institute, Blacksburg—July 23, 1967.

Eighth Annual Cardiovascular Symposium—Sponsored by Tidewater Heart Association—Golden Triangle Motor Hotel—Norfolk—September 15-16, 1967.

"Willis Oration"—Lecturer will be Dr. Douglas Clark, Glasgow, Scotland—Especially for Johnston-Willis Staff and members of the Richmond Academy of Medicine—Country Club of Virginia—Richmond—6:00 p.m., October 13, 1967.

Annual Meeting of The Medical Society of Virginia—Marriott Twin Bridges Motor Hotel—Arlington—October 19-22, 1967.

Clinical Convention of American Medical Association—Houston, Texas—November 26-29, 1967.

New Members.

The following members were admitted into The Medical Society of Virginia during the month of April:

Laurence Glenn Christie, Jr., M. D., Richmond
Stanley McDowell Elmore, M.D., Richmond
Clarence Kinsey Glover, M.D., Fredericksburg
Russell Leon May, M.D., Fairfax
Thomas Walker Monaghan, M.D., Roanoke
Alfred Andrew Douglas Moore, M.D., Norfolk
Frederik Marie van den Branden, M.D., Fairfax
Peyton Edwin Weary, M.D., Charlottesville

Dr. A. L. Van Name, Jr.,

Urbanna, has been named to the Regional Interagency Council for Region IV of the Virginia Mental Retardation Planning Council.

Dr. Rex Blankinship

Has been named president of the Memorial Guidance Clinic in Richmond. He is president of Westbrook Sanatorium and

past president of the Virginia Association for Mental Health. Dr. Blankinship has been a member of the Governor's Advisory Board on Mental Hygiene since 1945.

Dr. G. Melville Williams,

Assistant professor of Surgery at the Medical College of Virginia has been awarded a $30,000 Markle scholarship grant. The award will go to the medical school at the rate of $6,000 a year for the next five years and will supplement salary and aid in research.

Dr. J. E. Rawls, Jr.,

Suffolk, has been elected vice president of the Tidewater Senior Citizens Corporation.

Medical Staff.

Dr. Ronald S. Miller has been named chief of the medical staff of John Randolph Hospital, Hopewell. Dr. P. C. Yerby was re-elected vice chief and Dr. Jerome D. Skaggs secretary-treasurer. Dr. A. T. Brickhouse and Dr. Theodore C. Andrew were elected to the executive council.

Dr. Walter E. Schlabach

Announces the relocation of his office for the practice of Surgery from Luray to the Valley National Bank Building in Harrisonburg.

Dr. Leo J. Dunn

Has been appointed professor and chairman of the department of obstetrics and gynecology of the Medical College of Virginia, effective July 1st. The appointment establishes the first full time head of this department.

The Gill Memorial Eye, Ear and Throat Hospital,

Roanoke, has completed its Fortieth Annual Spring Congress which was held this year as a memorial to Dr. Elbyrne G. Gill, its founder.

There was a large attendance representating thirty-five states.

The next Congress will be held April 1-5, 1968.

Medical Seminar Cruise.

Georgetown University School of Medicine, Washington, is announcing its sponsorship of a second medical seminar cruise aboard the S. S. *France* sailing from New York, October 30th on a 14 day Caribbean Cruise. There will be 24 hours of instruction, consisting of formal lectures, panels and round table discussions.

Those wishing further information may obtain it from the Allen Travel Service, Inc., 565 Fifth Avenue, New York 10017.

Location Wanted.

Anesthesiologist, FACA, wants relocation to State of Virginia. Tidewater region preferred. Licensed, experienced, fee for service preferred, group or partnership accepted. Write #135, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221 (*Adv.*)

Office Space Available

In Medical Dental Center of Arlington, Virginia. Suites available for specialists and general practitioners. For further information call Archibald R. MacPherson, M.D., 703-527-4466. (*Adv.*)

Wanted.

Board certified or eligible ophthalmologist to be associated with group in Clifton Forge, Virginia. Opportunity for large practice, vacancy immediate. Apply to J. M. Emmett, M.D., Chesapeake and Ohio Hospital, Clifton Forge. (*Adv.*)

Practice Available.

An immediate and ready-made opportunity for a physician interested in general practice. A complete practice, office and

equipment available at most reasonable terms. Location is in suburban area, nine miles east of Richmond. Interested parties should contact Mrs. James Graham Brown, Route 5, Box 285-D, Richmond. Telephone 795-1296 (area code 703). (*Adv.*)

Obituary . . . .

Dr. Wine.

On Wednesday, March 1, 1967, the City of Harrisonburg, the County of Rockingham, and the surrounding counties in Virginia and nearby West Virginia suffered a great loss in the death of Dr. John Eugene Wine.

Dr. Wine was born July 31, 1889, in Shenandoah County. He earned an academic degree at Bridgewater College, and received his medical degree from the Medical College of Virginia in 1917. He was eagerly looking forward to returning to M. C. V. this year to celebrate his fiftieth year of serving his fellowman in the practice of medicine. Following graduation from M. C. V., he served a rotating internship at James Walker Memorial Hospital, Wilmington, N. C., after which he did postgraduate work at Rockefeller Institute and Columbia University, New York. He entered the Army and served overseas in World War I with Base Hospital No. 65 in France. He retired from the Army Medical Corps as a Captain.

Dr. Wine began practice in Harrisonburg in 1919 and continued in active practice until his last illness. These 46 years of dedication and devotion in the practice of medicine of the highest standard will leave a void which cannot be filled. However, his contributions to the community and to medicine will be etched on the hearts and lives of his patients, his two associates, Drs. Jean F. Wine and James R. Brunk, and the medical and nursing staffs of the Rockingham Memorial Hospital, as well as all others with whom he came in contact. His active and inquisitive mind kept him constantly abreast of the latest contributions in medicine in order to best serve his patients. He was not satisfied or complacent with the reputation he enjoyed and so richly deserved as the dean of Harrisonburg medical practitioners; but, even during his last illness he continued to keep his mental faculties active by using every available moment to relax with a medical journal.

He was an active member and past president of the Rockingham Memorial Hospital Medical Staff. He, also, was a member and past president of the Rockingham County Medical Society. He was a member of the Medical Association of the Valley of Virginia, of The Medical Society of Virginia and of the American Medical Association.

Dr. Wine was a member of the First Presbyterian Church, the American Legion, the Veterans of Foreign Wars, the Harrisonburg Elks Lodge, and a charter member of the Harrisonburg Kiwanis Club. Dr. Wine was loved deeply by everyone connected with the Rockingham Memorial Hospital—not only the medical and nursing staffs, but the members of all the auxiliary departments. Each nurse knew that she had a true friend in the person of Dr. Wine, and, in order to show their appreciation and devotion for his never-ending helpfulness, the Rockingham Memorial Hospital School of Nursing Alumni Association made him an honorary member of that association.

Dr. Wine was twice married. His first wife, Nell Fennell Wine preceded him in death. He is survived by his second wife, Audrey Zirkle Wine, a son, Dr. Jean Fennell Wine, and a foster daughter, Mrs. Mary Shuford Dobbie.

Whereas, God in His infinite wisdom saw fit to remove from our midst our beloved and respected Dr. John Eugene Wine, let us never forget and always be grateful that our lives and hearts were touched and strengthened by his earthly presence.

Therefore, be it resolved that a copy of this resolution be made permanent in the minutes of the Rockingham County Medical Society, and a copy be sent to his family and the Virginia Medical Monthly.

G. Garland Tanner, M.D.
Catherine E. Craun, M.D.

DIARRHEA

CANTIL®
(mepenzolate bromide)

Diarrhea, one of the most vexing symptoms of common G.I. disorders can often be curbed with Cantil (mepenzolate bromide), bringing welcome relief to the harassed patient. Relatively specific for the hyperactive colon, it helps reduce diarrhea, pain and spasm with minimal effect on other viscera. Cantil (mepenzolate bromide) is indicated whenever these symptoms are associated with irritable colon, gastroenteritis, diverticulitis, and mild to moderate ulcerative colitis.

It is an anticholinergic drug without narcotic properties. Side effects are usually mild.

LAKESIDE

IN BRIEF: One or two tablets three times a day and one or two at bedtime usually provide prompt relief. Cantil with Phenobarbital may be prescribed if sedation is required.

Dryness of the mouth, blurring of vision, constipation, nausea, vomiting, bloating and dizziness may occur but are usually mild and transitory. Urinary retention is rare. Caution should be observed in prostatic hypertrophy — withhold in glaucoma. Contraindicated in patients sensitive to phenobarbital and/or Cantil (mepenzolate bromide); in toxic megacolon, obstruction of G.I. or G.U. tract.

SUPPLIED: CANTIL (mepenzolate bromide) — 25 mg. per scored tablet. Bottles of 100 and 250. CANTIL with PHENOBARBITAL — containing in each scored tablet 16 mg. phenobarbital (warning: may be habit forming) and 25 mg. mepenzolate bromide. Bottles of 100 and 250.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201

ST. LUKE'S HOSPITAL
McGUIRE CLINIC

1000 West Grace Street
Richmond, Virginia

Internal Medicine
JOHN P. LYNCH, M.D.
WM. H. HARRIS, JR., M.D.
JOHN B. CATLETT, M.D.
ROBERT W. BEDINGER, M.D.
ALICE VIRGINIA THORPE, M.D.
DAVID L. LITCHFIELD, M.D.

General Surgery and Gynecology
WEBSTER P. BARNES, M.D.
JOHN H. REED, JR., M.D.
JOSEPH W. COXE III, M.D.
H. FAIRFAX CONQUEST, M.D.
GILBERT H. BRYSON, M.D.

Neurology
RAYMOND A. ADAMS, M.D.

Orthopedic Surgery
JAMES T. TUCKER, M.D.
BEVERLEY B. CLARY, M.D.
JAMES B. DALTON, JR., M.D.
EARNEST B. CARPENTER, M.D.
FRANKLIN P. WATKINS, M.D.
ERNEST L. CLEMENTS, M.D.

Urology
AUSTIN I. DODSON, JR., M.D.
J. EDWARD HILL, M.D.
WILLIAM T. STUART, JR., M.D.

Bronchoscopy
GEORGE AUSTIN WELCHONS, M.D

Radiology and Isotope Medicine
HENRY S. SPENCER, M.D.
DONALD E. SEIM, M.D.

Pathology
J. H. SCHERER, M.D.

Anesthesiology
HETH OWEN, JR., M.D.
WILLIAM B. MONCURE, M.D.
BEVERLY JONES, M.D.
BOYD H. MAY, M.D.

Administrator
WILLIAM D. GIBSON, M.H.A.
Secretary-Treasurer

ALL ROOMS AIR CONDITIONED
Free Parking for Patrons

DOCTORS:

ADMINISTRATORS:

Terrace Hill Nursing Home
Is a Fully Accredited
Medicare Approved
Extended Care Facility

Within 9 minutes from any local hospital

- Post Hospital Nursing Care
- Round the Clock Skilled Care
- Sprinkler System, Fire Protected
- R.N. Supervision
- Activities
- Trained Dietitian
- Male Orderlies
- Air-Conditioned Rooms

View Showing Park-like Grounds of Terrace Hill Nursing Home

In compliance with the Civil Rights Act of 1964

Patients under care of their own Physicians

Neal L. Maslan, M.P.H.
Administrator

State and City Health Depts. Approved

"Understanding Care"

Member: + Va. Nursing Home and American Nursing Home Assns.

Member

TERRACE HILL NURSING HOME, INC.

2112 MONTEIRO AVENUE RICHMOND, VIRGINIA 23222 643-2777

TUCKER HOSPITAL Inc.

212 West Franklin Street

Richmond, Virginia

A private hospital for diagnosis and treatment of psychiatric and neurological disorders. Hospital and out-patient services.

James Asa Shield, M.D.
George S. Fultz, Jr., M.D.
Catherine T. Ray, M.D.
Weir M. Tucker, M.D.
Edward W. Gamble, III, M.D.
Gerald W. Atkinson, M.D.

Richmond Eye Hospital
Richmond Ear, Nose and Throat Hospital

408 North 12th Street
Richmond, Virginia 23219

An Independent Specialized Non-Profit Community Hospital Dedicated to the Treatment and Cure of Eye, Ear, Nose and Throat Diseases and Disorders.

Professional care offered a limited number of indigent patients.

Direct inquiries to John H. Tobin, Jr., Administrator

408 N. 12th Street, Richmond, Virginia

ST. ELIZABETH'S HOSPITAL

617 West Grace Street
Richmond, Virginia
Established 1912

Guy W. Horsley, M.D.
General Surgery and Gynecology

James T. Gianoulis, M.D.
General Surgery and Gynecology

James W. Pancoast, M.D.
General Surgery and Gynecology

Leroy Smith, M.D.
Plastic Surgery

Hunter B. Frischkorn, Jr.
Radiology

Austin I. Dodson, Jr., M.D.
Urology

J. Edward Hill, M.D.
Urology

William T. Stuart, M.D.
Urology

Levi W. Hulley, M.D.
General Medicine

Clarry C. Trice, M.D.
General Medicine

Douglas G. Chapman, M.D.
Internal Medicine

George W. Reese, Jr., M.D.
Internal Medicine

Elmer S. Robertson, M.D.
Internal Medicine

Charles A. Pollock, Jr., M.D.
Internal Medicine

William R. Draper, *Administrator*

For the Care of Surgical, Gynecological, Urological and Medical Cases.

STUART CIRCLE HOSPITAL

413-21 Stuart Circle RICHMOND, VIRGINIA

Medicine:
Manfred Call, III, M.D.
Alexander G. Brown, III, M.D.
John D. Call, M.D.
Wyndham B. Blanton, Jr., M.D.
Frank M. Blanton, M.D.
William W. Martin, Jr., M.D.

Obstetrics and Gynecology:
Wm. Durwood Suggs, M.D.
Spotswood Robins, M.D.
David C. Forrest, M.D.
Joseph C. Parker, M.D.
William M. Oppenhimer, M.D.

Orthopedics:
Beverley B. Clary, M.D.
James B. Dalton, Jr., M.D.
Franklin P. Watkins, M.D.

Pediatrics:
Edward G. Davis, Jr., M.D.
Thomas P. Overton, M.D.
Albert S. Thompson, Jr., M.D.
Edward J. Wiley, M.D.

Ophthalmology, Otolaryngology:
Richard W. Dodd, M.D.
J. Warren Montague, M.D.

Anesthesiology:
William B. Moncure, M.D.
Heth Owen, Jr., M.D.

Surgery:
A. Stephens Graham, M.D.
Charles R. Robins, Jr., M.D.
Carrington Williams, M.D.
Richard A. Michaux, M.D.
Carrington Williams, Jr., M.D.
Armistead M. Williams, M.D.

Urological Surgery:
Frank Pole, M.D.
Harry S. Rowland, Jr., M.D.

Oral Surgery:
Guy R. Harrison, D.D.S.

Physical Therapy
Marilyn B. Morrison, R.P.T.

Plastic Surgery:
Hunter S. Jackson, M.D.

Roentgenology and Radiology:
Hunter B. Frischkorn, Jr., M.D.
William C. Barr, M.D.
James W. Proffitt, M.D.

Pathology:
James B. Roberts, M.D.

Director:
Charles C. Hough

"When I couldn't even smell corned beef and cabbage, I decided it was time for you, Doc."

Maybe he doesn't know when he's well off. But you might want to prescribe long-acting Novahistine LP anyway.

Two tablets in the morning and two in the evening will usually provide day and night relief by helping to clear congested air passages for normal, free breathing. Novahistine LP is formulated to provide continuous therapeutic effect for 8 to 12 hours. The decongestant ingredients help restore normal mucus secretion and ciliary activity—physiologic defenses against infection of the respiratory tract.

Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution ambulatory patients that drowsiness may result. Each Novahistine LP tablet contains: phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

NOVAHISTINE® LP

DOW **PITMAN-MOORE** Division of The Dow Chemical Company, Indianapolis

Appalachian Hall • Asheville, North Carolina

ESTABLISHED 1916

An Institution for the diagnosis and treatment of Psychiatric and Neurological illnesses, rest, convalescence. drug and alcohol habituation.

Insulin Coma, Electroshock and Psychotherapy are employed. The Institution is equipped with complete laboratory facilities including electroencephalography and X-ray.

Appalachian Hall is located in Asheville, North Carolina, a resort town, which justly claims an all around climate for health and comfort. There are ample facilities for classification of patients, rooms single or en suite.

WM. RAY GRIFFIN, JR., M.D.
ROBERT A. GRIFFIN, JR., M.D.
MARK A. GRIFFIN, SR., M.D.
MARK A. GRIFFIN, JR., M.D.

For rates and further information write APPALACHIAN HALL. ASHEVILLE, N. C

SAINT ALBANS

PSYCHIATRIC HOSPITAL

(A Non-Profit Organization)

Radford, Virginia

Telephone: 639-2482

STAFF

James P. King, M.D., Director

William D. Keck, M.D.
Clinical Director
James K. Morrow, M.D.
Morgan E. Scott, M.D.

Edward E. Cale, Jr., M.D
Malcolm G. MacAulay, M.D.
Don L. Weston, M.D.
J. William Giesen, M.D.

Clinical Psychology:
Thomas C. Camp, Ph.D.
Card McGraw, Ph.D.
David F. Strahley, Ph.D.

Don Phillips, Administrator
R. Lindsay Shuff, M.H.A., Assist. Admin.

Social Service:
Harold M. Cook, M.S.W.

AFFILIATED CLINICS

Bluefield Mental Health Center
525 Bland St., Bluefield, W. Va.
David M. Wayne, M.D.

Charleston Mental Health Center
1206 Quarrier St., Charleston, W. Va.
E. E. Gimenez, M.D.

Beckley Mental Health Center
109 E. Main Street, Beckley, W. Va
W. E. Wilkinson, M.D.

Mental Health Clinic
Professional Building, Wise, Va.
Pierce D. Nelson, M.D.

The AMBAR SCRAPBOOK of **Obesity Oddities**

FACT & LEGEND

CHARLES DICKENS'

"FAT BOY JOE"

in Pickwick Papers

IS THE FIRST RECORDED CASE OF OBESITY WITH NARCOLEPSY

DR. C. SIDNEY BURWELL COINED THE TERM "PICKWICKIAN SYNDROME" IN 1955!

TAKE HEED
O GOOD TRAV'LLER
AND DO NOT
TREAD HARD
FOR HERE LIES
DR. STAFFORD
IN ALL THIS
CHURCH-YARD

Obese Epitaph
in English graveyard

RECORD FOR EATING
GOES TO MATTHEW DAKING AGED 12
WHO, IN 1743, CONSUMED 384 LBS. OF FOOD IN SIX DAYS!

Ambar No 2 Extentabs

Rx

THE Cost of
AMBAR EXTENTABS
IS APPROXIMATELY ONE-HALF THAT OF OTHER LEADING APPETITE SUPPRESSANTS.

AN IMPORTANT FACTOR IN LONG-TERM THERAPY!

CONTROL FOOD AND MOOD ALL DAY LONG WITH A SINGLE MORNING DOSE

AMBAR #2 EXTENTABS®

methamphetamine HCl 15 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

One Ambar Extentab before breakfast can help control most patients' appetite for up to 12 hours. Methamphetamine, the appetite suppressant, gently elevates mood and helps overcome dieting frustrations. Phenobarbital, the sedative in Ambar, controls irritability and anxiety...helps maintain a state of mental calm and equanimity. Both work together to ease the tensions that erode the willpower during periods of dieting.

Also available: Ambar #1 Extentabs®—methamphetamine hydrochloride 10 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

BRIEF SUMMARY/**Indications:** Ambar suppresses appetite and helps offset emotional reactions to dieting. **Contraindications:** Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. **Precautions:** Administer with caution in the presence of cardiovascular disease or hypertension. **Side Effects:** Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. See package insert for further details.

A. H. ROBINS COMPANY,
RICHMOND, VA. 23220

A·H·ROBINS

Against these three major pathogens...

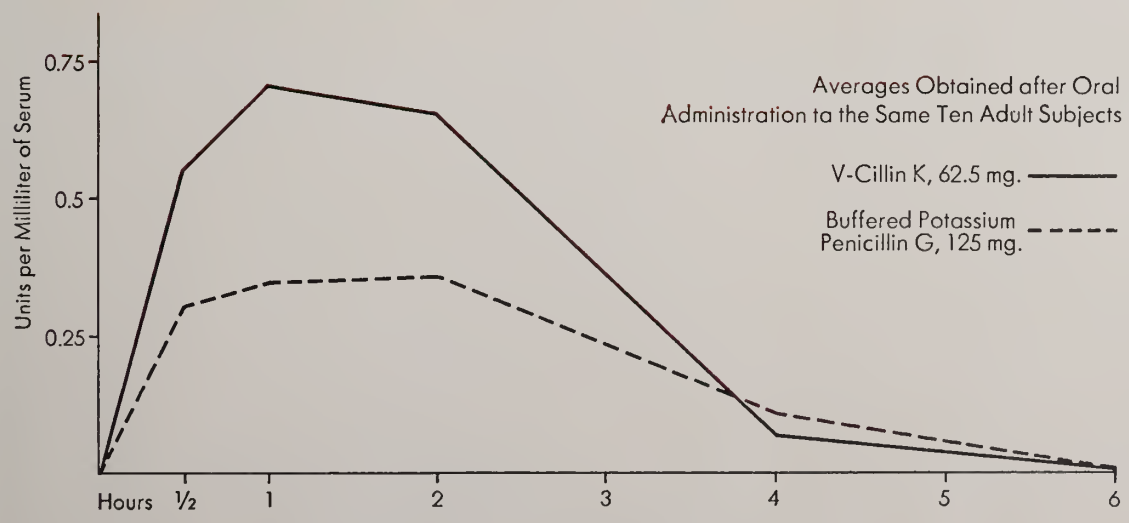
V-Cillin K® provides dependable oral antibacterial activity

because it combines a high degree of in-vitro activity...

Antibiotic	Staph. Aureus (Penicillin-Sensitive) MIC (mcg./ml.) Median	Range	Streptococcus, Group A MIC (mcg./ml.) Median	Range	Diplacoccus Pneumaniae MIC (mcg./ml.) Median	Range
Penicillin V	0.02	0.02-0.04	0.02	0.003-0.4	0.01	0.005-0.2
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269:1019, 1963.

with high blood levels, even in the presence of food



Adapted from Griffith, R. S., and Black, H. R.: Current Ther. Res., 6 253, 1964.

V-Cillin K® Lilly 700636

Potassium Phenoxymethyl Penicillin

(See next page for prescribing information

New 500 mg. tablets...a more convenient way to give high doses

Description: V-Cillin K is the potassium salt of V-Cillin® (phenoxymethyl penicillin, Lilly). This chemically improved form combines acid stability with immediate solubility and rapid absorption. Higher serum levels are obtained more rapidly with this penicillin than with equal oral doses of penicillin G. The higher serum levels and acid stability of V-Cillin K make it a more dependable penicillin for oral use.

V-Cillin K, Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed, each 5 cc. (approximately one teaspoonful) will contain 125 mg. (200,000 units) phenoxymethyl penicillin as the potassium salt.

Indications: V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

Contraindication: V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

Warnings: In rare instances, the use of penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin and in those with bronchial asthma or other allergies. Resuscitative drugs should be readily available for emergency administration. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for relief of immediate allergic manifestations and antihistamines and corticosteroids for delayed effects.

Precautions: V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with hig parenteral dosage schedules, frequent evaluation of the renal an hematopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studie (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth c pencillin-insensitive organisms. In such cases, its administration shoul be discontinued, and appropriate measures should be taken.

Adverse Reactions: Although serious allergic reactions are much les common with administration of oral penicillin than with intramuscul forms, manifestations of penicillin allergy may occur.

Penicillin is a substance of low toxicity, but it does possess a signif cant index of sensitization. The following hypersensitivity reactior associated with the use of penicillin have been reported: skin rashe ranging from maculopapular eruptions to exfoliative dermatitis; urt caria; and reactions resembling serum sickness, including chills, feve edema, arthralgia, and prostration. Severe and often fatal anaphylax has occurred (see Warnings). Hemolytic anemia, leukopenia, thron bocytopenia, and nephropathy are rarely observed side-effects an are usually associated with high parenteral dosage.

Administration and Dosage: For Tablets V-Cillin K and for V-Cillin K Pediatric, the usual dosage ranges from 125 mg. (200,000 units) thre times a day to 500 mg. (800,000 units) every four hours. For infant the daily dosage may be 50 mg. per Kg. of body weight divided int three doses.

Beta-hemolytic streptococcus infections without associated ba teremia may be treated with 200,000 to 400,0000 units three times day. Therapy should be continued for a minimum of ten days to prever development of rheumatic fever and/or other serious complication Dosage for routine streptococcus prophylaxis in patients with a histor of rheumatic fever or congenital heart disease may be 200,000 uni once or twice daily. When such patients undergo tonsillectomy, toot extraction, or other minor surgery, the prophylactic dose should b 500,000 units every six hours given two days prior to surgery and fc two days postoperatively. If oral medication is not feasible on the dc of surgery, parenteral therapy should be considered. Mild to mode ately severe pneumococcus pneumonia has been treated effective with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be give every six to eight hours in conjunction with indicated surgical proc dures.

For gonorrhea in males, 500 mg. (800,000 units) every four hours fc three doses may be employed; in females, 500 mg. every four hou for six doses are recommended. Refractory infections generally respon to a second treatment three to four days following completion of th first. Treatment of gonorrhea with severe complications should b individualized, with prolonged and intensive treatment. Patients with suspected lesion of syphilis should have a dark-field examination be fore receiving penicillin and monthly serologic tests for a minimum c three months.

How Supplied: Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units), i bottles of 50 and 100; and 250 mg. (400,0000 units) and 500 mg (800,000 units), in bottles of 24 and 100.

V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) pe 5 cc. of solution, in 40, 80, and 150-cc.-size packages. [03206.

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.

Lilly

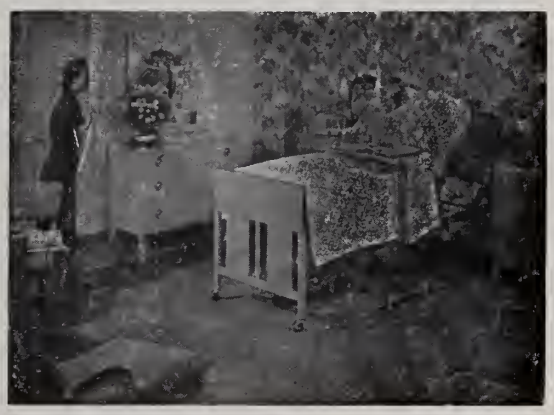
7008

Fourth Decade of Nursing

MRS. PLYLER'S NURSING HOME

KATE E. PLYLER (1876-1947) MARY I. CLARK (1884-1955) GENE CLARK REGIRER (1912-1962)

A private nursing home dedicated to the care of chronic, convalescent and aged



MRS. EDNA SHEPHERD TARCEN, Superintendent

1615 Grove Avenue, Richmond, Virginia, Telephone EL 9-3221

Fire Protection by Grinnell Sprinkler System

For the Discriminating Eye Physician

Depend on the Services of a Guild Optician

in Lynchburg, Virginia

A. G. JEFFERSON

Ground Floor **Allied Arts Bldg.**

Exclusively Optical

SOUTH BOSTON CONVALESCENT HOME

1146 N. Main St.
South Boston, Va.

Intensive nursing care in a facility which is fully accredited by the Joint Commission on the Accreditation of Hospitals. Private or semi-private accommodations. Hospital and Clinic immediately adjacent which provides for 24-hour complete medical services. (Sorry, no Medicare.)

Write, or call Ripley P. Owen, *Administrator*, at 572-2965.

Gill Memorial Eye, Ear, Nose And Throat Hospital, Inc. And Clinic

707-711 South Jefferson Street • Roanoke, Virginia

STAFF

Dr. Elbyrne G. Gill
Dr. Houston L. Bell
Dr. Ronald B. Harris
Dr. Scott W. Little
Dr. Junius E. Crowgey
Dr. Antonio B. DeGala
George H. Bratton
Business Manager
David G. Williamson, Jr.
Administrator

A Modern Fireproof Hospital and Clinic, the Latter Recently Designed in the Adjacent Seven-O-Seven Building Especially Equipped for the Medical and Surgical Care of Ophthalmology, Otalaryngology, Surgery for Deafness, Rhinoplastic Surgery, Bronchoscopy and Esophagoscopy.

The Courtesy Staff also Includes Dental and Oral Surgery.
Complete Laboratory and X-Ray Equipment. Physicians and Graduate Nurses in Constant Attendance.

For further information, address:

Business Manager, Box 1789, Roanoke, Virginia 24008

Riverside Convalescent Home

Sophia & Fauquier Sts.
Fredericksburg, Virginia

Large, air-conditioned, Firesafe building with hospital-like facilities but in a cheerful home-like atmosphere. Twenty-four hour medical supervision and nursing care.

Recreational areas—Occupational and Physiotherapy. Excellent food service. Lovely Riverside Park. Inspection invited. All types of accommodations available.

Rates:

$50.00 to $80.00 per week

JOHNSTON-WILLIS HOSPITAL

RICHMOND, VIRGINIA

A MODERN GENERAL HOSPITAL
PRIVATELY MANAGED
SITUATED IN THE QUIET OF THE
WEST END RESIDENTIAL SECTION

BAYBERRY PSYCHIATRIC HOSPITAL

HAMPTON, VIRGINIA

A private psychiatric hospital for the treatment of nervous and emotional disorders and the various problems of addiction for both white and colored—employing modern diagnostic and treatment procedures—electro-convulsive and insulin, individual and group psychotherapy, chemotherapy.

WENDELL J. PILE, M.D.
Medical Director

HOWARD L. COX, M.D. BASIL E. ROEBUCK, M.D.

CLINICAL PSYCHOLOGISTS

WILLIAM E. TYSON, Chief Psychologist

CHARLES T. PERKINS MILAN S. WILSON

BROCHURE OF LITERATURE SENT ON REQUEST
Write or call:

BAYBERRY PSYCHIATRIC HOSPITAL
530 East Queen Street
Hampton, Virginia 23369
Telephone: PARK 2-2504

HIGHLAND HOSPITAL

ASHEVILLE, NORTH CAROLINA

FOUNDED 1904

A DIVISION OF THE DEPARTMENT OF PSYCHIATRY OF DUKE UNIVERSITY

Accredited by the Joint Commission on Accreditation and Certified for Medicare

Complete facilities for evaluation of and intensive treatment of psychiatric patients, including individual psychotherapy, group therapy, psychodrama, electro-convulsive therapy, Indoklon convulsive therapy, drugs, social service work with families, family therapy, and an extensive and well organized activities program, including occupational therapy, art therapy, athletic activities and games, recreational activities and outings. The treatment program of each patient is carefully supervised in order that the therapeutic needs of each patient may be realized.

Complete modern facilities with 85 acres of landscaped and wooded grounds in the City of Asheville.

Brochures and information on financial arrangements available

Contact: MRS. ELIZABETH HARKINS, ACSW, *Coordinator of Admissions*

or

CHARLES W. NEVILLE, JR., M.D.
Assistant Professor of Psychiatry and Medical Director

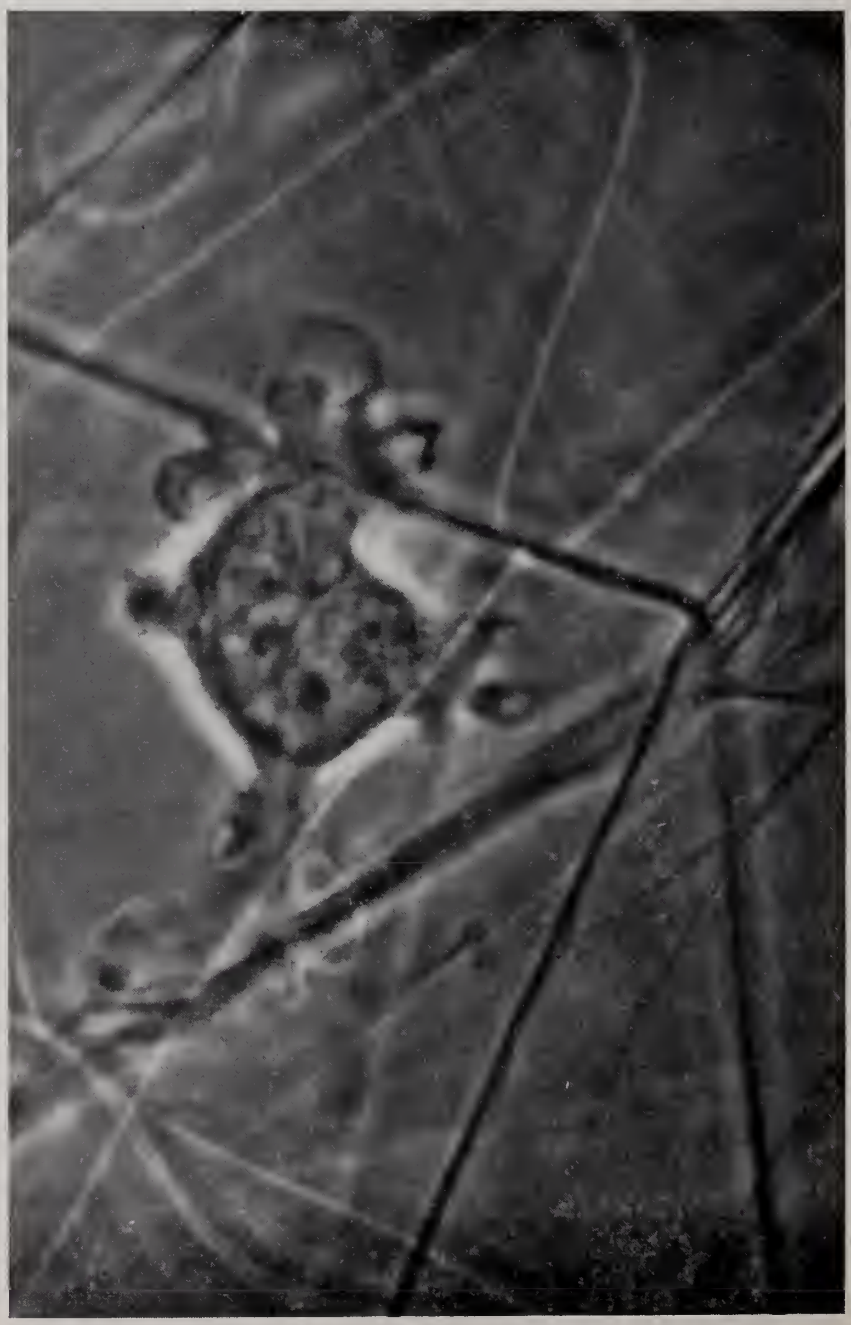
Area Code 704—253-2761

INFLAMMATION: A cellular fight for life

A SYNTEX REPORT based on recently developed hypotheses about topical corticosteroids, including the cellular theories of inflammation by Thomas F. Dougherty, Ph.D., University of Utah.

You are looking at a fibroblast fighting for life. This cell—one of the most common found in connective tissue—has literally been poisoned by cytotoxins released from other cells that have ruptured. Soon, if the abnormal activity of this fibroblast does not cease, it, too, will rupture and die—one more casualty in the inflammatory wave of destruction precipitated by injury.

Until a short time ago no one had ever witnessed such a scene at the cellular level. Now, through advanced cinemicrographic techniques, it is possible to view and photograph the inflammatory process as produced experimentally in living animal tissue. This method permits new insight into the mechanism of inflammation and the role of corticosteroids in therapeutic management. Equally important, these techniques shed new light on factors that may make one corticosteroid more effective than another—factors that can be correlated with other chemical, biologic, and clinical parameters.

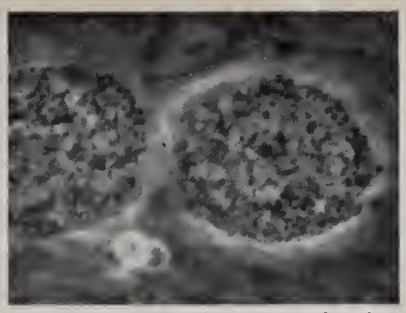


Visual evidence of how corticosteroids influence the inflammatory reaction

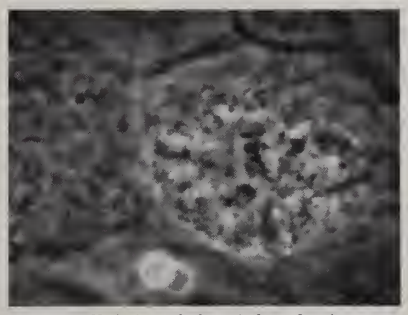
Working with phase-contrast cinemicrography on living animal tissue, Doctors Thomas F. Dougherty and David Berliner of the University of Utah College of Medicine have actually filmed cellular events that occur during the inflammatory reaction. This remarkable study* and additional work by these investigators, as well as by others, have established a new theoretical biologic basis for the antiinflammatory effect of the corticosteroids. (It must be noted that other theories, such as the lysosome or so-called "suicide bag" theory, have been postulated, although it is quite likely that there are more similarities than differences among the various theoretical models.)

The inflammatory wave of destruction

In this investigation an injurious injection of gelatin is used to set off an inflammatory reaction in living mouse tissue. What follows is a wave of destructive cellular activity that comprises the inflammatory response to injury. Mast cells (which contain heparin, serotonin and histamine) take up water, swell and rupture, releasing their contents, which are toxic outside the mast cell wall. These toxins, in turn, cause disintegration of other cells (such as fibroblasts) and the release of additional toxic material. Capillaries, too, take up water and leak unformed blood elements, causing edema. And polymorphonuclears, lymphocytes and perithelial cells invade the inflamed site. As a result of all these changes, the cellular environment reaches a state of turmoil.



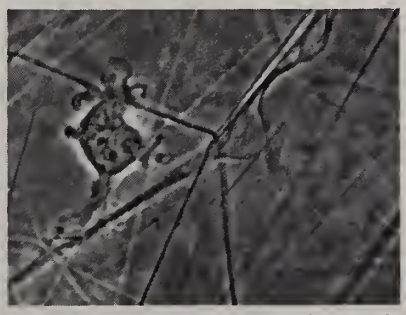
Phase-contrast microscopy showing mast cell before injury.



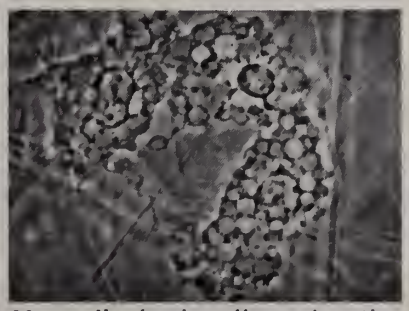
Mast cell (after injury) has broken up and released cytotoxins.

How corticosteroids change the picture

Corticosteroids appear to virtually stop the abnormal cellular activity that constitutes the inflammatory reaction. This permits the body's natural resources to clear up the inflamed area and repair the damaged tissue. This interpretation is supported by the fact that when the injurious gelatin solution is injected simultaneously with a corticosteroid – Synalar (fluocinolone acetonide) – the inflammatory pattern simply does not develop.



Fibroblast in high state of activity, much distorted.



Mast cells showing effects of corticosteroid action: cells are normal in size, shape and activity.

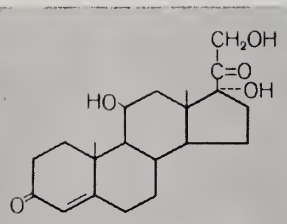
In summarizing his study Doctor Dougherty states: "...we also feel this work may explain why one corticosteroid helps a patient more rapidly and effectively than another. If it does, it is because one corticosteroid is the fastest, most effective inhibitor of the series of inflammatory events at the tissue level."

A New View of Corticosteroid Action in Inflammatory Dermatoses, a film based on this study, is now available from your Syntex representative.

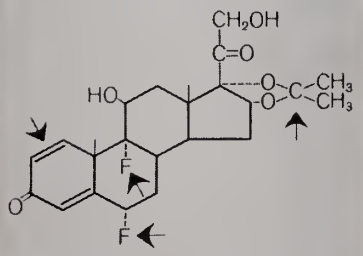
See last page for contraindications, precautions, side effects and dosage.

How advances in chemical design have achieved greater steroid potency

The chemical modification of corticosteroid molecules from the advent of hydrocortisone to the development of Synalar (fluocinolone acetonide) is a prime example of how biochemists can "design" to increase therapeutic activity and minimize undesirable side actions. Below, for example, we see the important changes that were made in reference to the hydrocortisone molecule to produce fluocinolone acetonide, one of the most active of all topical corticosteroids. As a result, a 0.01% preparation of Synalar (fluocinolone acetonide) has been reported to do the work of a 1% hydrocortisone product containing 100 times more cortiscosteroid. And it can often do it more effectively.



Hydrocortisone

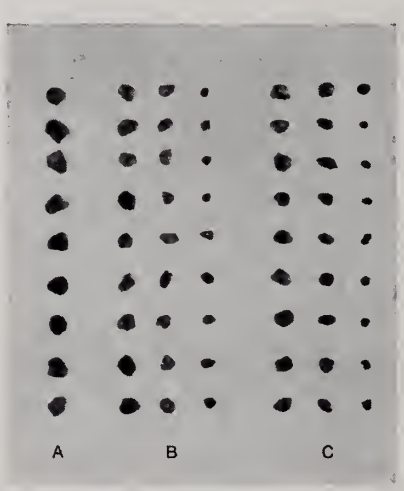


Fluocinolone Acetonide (Synalar)

- ☐ *a double bond between carbons 1 and 2*
- ☐ *fluorine substitutions at* both *the 6-α, and the 9-α positions*
- ☐ *the addition of the acetonide at the 16-α, 17-α positions, thus providing one of the most potent topical corticosteroids available.*

How bioassay tests are used to "predict" therapeutic potential

Biologic assays are another tool used by researchers to help establish the relative activity of corticosteroids. To date no single method of assaying corticosteroid activity has emerged as the ideal "yardstick" for predicting therapeutic potential. Taken together, however, these methods have proved useful. When such tests are run on various corticosteroids, a definite order of corticosteroid activity becomes evident. Compounds with the highest order of activity may be expected to merit clinical trial to establish their high therapeutic potential. When assayed by these methods, fluocinolone acetonide (Synalar) emerges as one of the most active topical corticosteroids, milligram for milligram, available for clinical application today.



THE THYMUS INVOLUTION ASSAY[1-4] is run on adrenalectomized rats. The sizes of the glands are measured, and the degree of involution caused by the steroid is determined as an indication of its potency. In the above photo, the comparative involution of thymus glands achieved with hydrocortisone and Synalar (fluocinolone acetonide) is shown. Untreated controls (A) show normal size. Group B – injected with 1, 2 and 4 mg. of hydrocortisone – show progressively smaller thymuses as does Group C – injected with fluocinolone acetonide – but with only 1/500th the dose of hydrocortisone.

THE ANTIGRANULOMA ASSAY[1-4] also utilizes adrenalectomized rats. Granulomas are induced by subcutaneous implantation of cotton pellets on either side of the thorax. The degree of granuloma inhibition achieved by a steroid reflects its potency. The above photo shows the inhibition of granuloma formation achieved with hydrocortisone and Synalar (fluocinolone acetonide). Untreated controls (A) show large, red granulomas adhering to the pellets. Group B, receiving hydrocortisone and Group C, receiving fluocinolone acetonide, show little, if any, granuloma formation. Fluocinolone acetonide produced the same effect as hydrocortisone with only 1/500th the dose. This assay, as well as the thymus involution assay, measures systemic rather than topical corticosteroid activity. Nevertheless, results by these methods correlate well with other assays and with the milligram potencies of topical steroids in current clinical use.

Worldwide clinical experience confirms the predictable therapeutic potential of Synalar

It is particularly gratifying that the promise of the advanced chemical design and high order of bioassay activity of Synalar (fluocinolone acetonide) has been confirmed by widespread therapeutic application. Indeed, the impressive clinical response rate of Synalar has been documented in no fewer than 232 papers from 22 countries.

Representative Clinical Results with Synalar*

Efficacy Documented in over 4,000 Patients

Condition	Number of Publications	Number of Patients	Significant Improvement†
Contact Dermatitis	27	750	713
Eczematous Dermatitis	21	472	409
Seborrheic Dermatitis	18	442	426
Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
Total	144	4,174	3,808

*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

PRESCRIBING INFORMATION

For initiation of therapy: Cream 0.025%, 5 and 15 Gm. tubes, 425 Gm. jars; *for emollient effect:* Ointment 0.025%, 15 Gm. tubes; *for maintenance therapy:* Cream 0.01%, 15 and 45 Gm. tubes, 120 Gm. jars; *for intertriginous or hairy sites:* Solution 0.01%, 20 cc. and 60 cc. plastic squeeze bottles; *for infected inflammatory dermatoses:* Neo-Synalar® Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes.

CONTRAINDICATIONS: Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components. PRECAUTIONS: Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. SIDE EFFECTS: Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

REFERENCES: 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. Ann NY Acad Sci 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. Proc Soc Exp Biol Med 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: Methods of hormone research, New York, Academic Press, 1964. vol. III. pp. 234-280. 4. Gubersky, V. R.: To be published.

fluocinolone acetonide — an original steroid from

SYNTEX

LABORATORIES INC., PALO ALTO, CALIF.

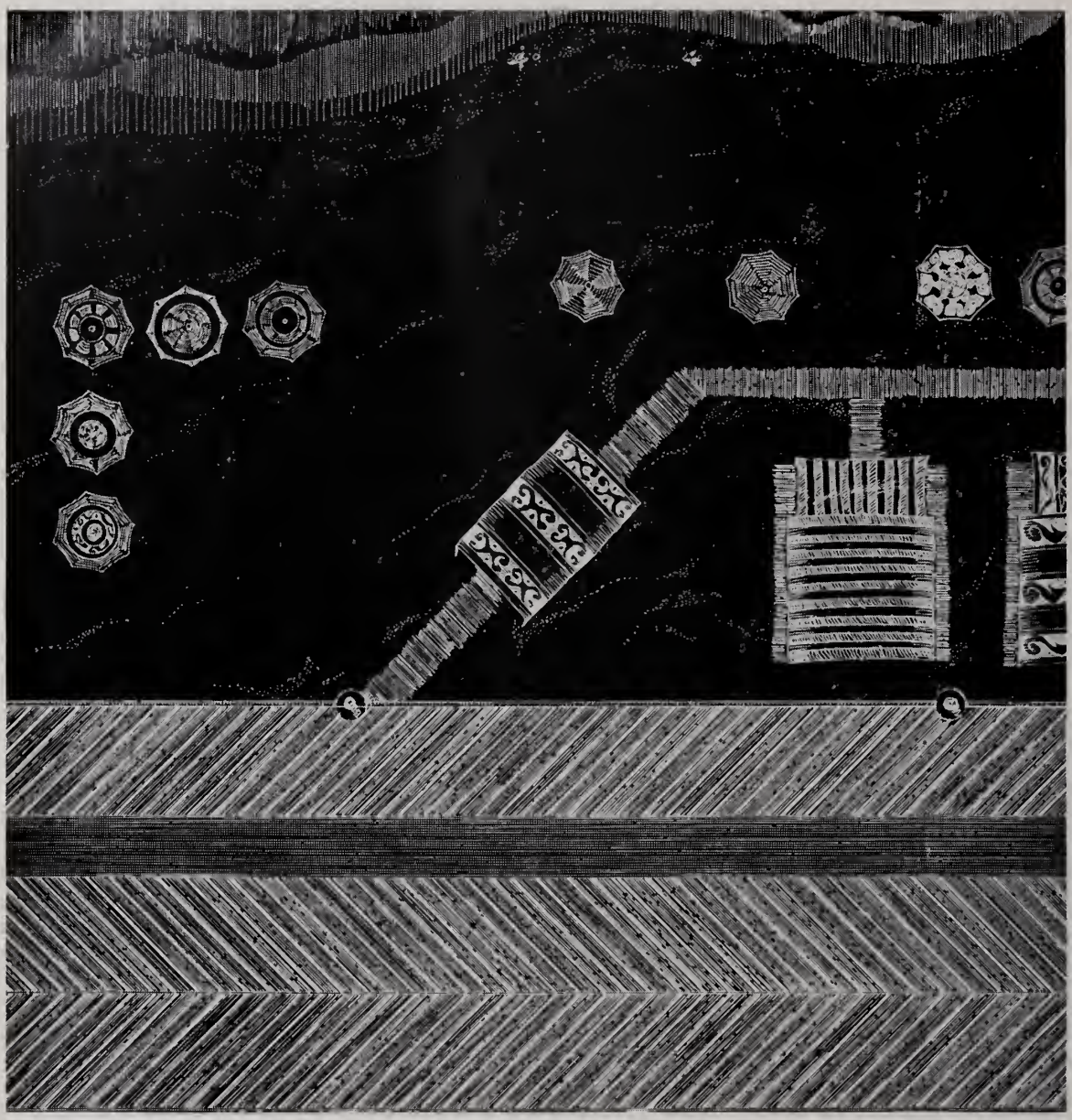
For inflammatory dermatoses... by any measure a topical corticosteroid of choice

Synalar® (fluocinolone acetonide)

Milligram for milligram one of the most active topical corticosteroids available

Rapid and predictable in antiinflammatory and antipruritic activity

Results often comparable to those of systemic corticosteroids with fewer hazards



AMA · 116th Annual Convention · Atlantic City, New Jersey · June 18-22, 1967

Come to Atlantic City—one of America's favorite by-the-sea playgrounds—and join your colleagues at the AMA's 116th ANNUAL CONVENTION!

Fine hotels and motels, excellent restaurants, plus all the advantages of a lively resort make this year's Convention a must for you and your family. Atlantic City provides a superb setting for a summer classroom and all the latest techniques of modern medicine. Plan to be one of the participants in this rewarding four day postgraduate education program.

• Four general scientific sessions • 23 section programs • 575 scientific and industrial exhibits. Lectures, panel discussions, motion pictures, and color television. Plan to attend—continue your postgraduate education.

RESERVE NOW for the SCIENTIFIC AWARDS DINNER in honor of the Scientific Award Winners—Wednesday, June 21, 1967. Since space is limited, we suggest you make your reservations before June 1, 1967. Tickets are $10.00 each, payable in advance.

See JAMA May 8, 1967 for complete scientific program—forms for advance registration and hotel accommodations.

after surgery

B and C vitamins are therapy: Therapeutic amounts of B and C in stress formula vitamins often are vital during periods of physiologic stress. STRESSCAPS capsules, designed to meet increased metabolic demands, aid in achieving a more comfortable convalescence, a more rapid recovery. After surgery, as in many stress conditions, STRESSCAPS vitamins are therapy.

Stresscaps®

Stress Formula Vitamins Lederle

FOR PROFESSIONAL RECOMMENDATION ONLY

Each capsule contains:

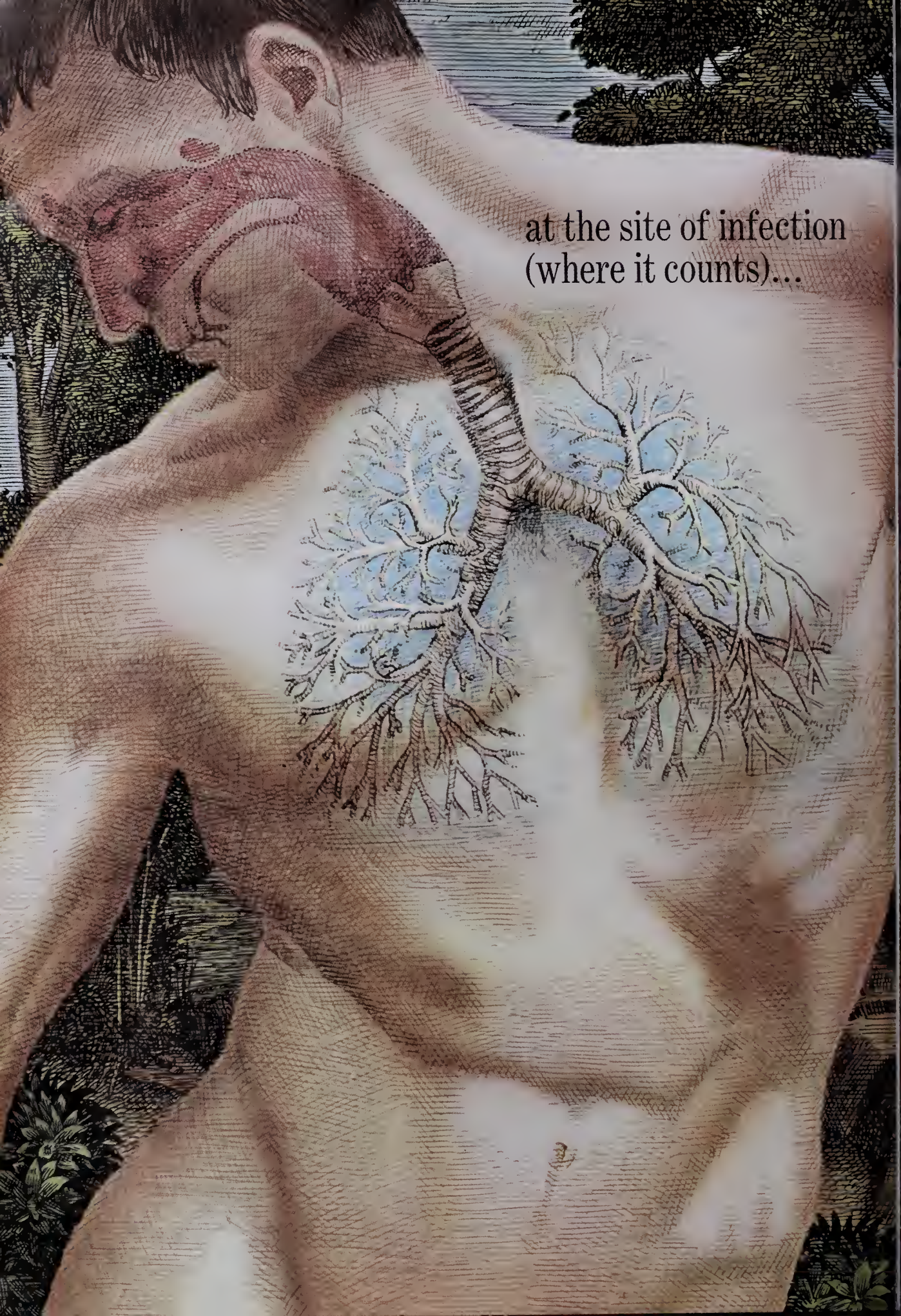
Vitamin B_1 (Thiamine Mononitrate)	10 mg
Vitamin B_2 (Riboflavin)	10 mg
Vitamin B_6 (Pyridoxine HCl)	2 mg
Vitamin B_{12} Crystalline	4 mcgm
Vitamin C (Ascorbic Acid)	300 mg
Niacinamide	100 mg
Calcium Pantothenate	20 mg

Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 and 100; bottles of 500.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

Lederle

627-6—3613


at the site of infection
(where it counts)...

Ilosone® provides more antibacterial activity than any other oral erythromycin

Acid stable, better absorbed ... Ilosone produces faster, higher, more prolonged blood levels, even in the presence of food[1-3]

Because it is the most active form of oral erythromycin, Ilosone can help assure consistently greater antibacterial activity at the site of infection. Ilosone produces peak antibacterial blood levels two to four times those of other erythromycin preparations.[1,2] Not only are these levels attained earlier, but they are maintained for much longer periods. Even the presence of food does not seem to affect the activity of Ilosone.[1,3]

In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

700121

Ilosone®

Lilly

Erythromycin Estolate

(See next page for prescribing information.)

Ilosone®/ the most active oral form of erythromycin

Description: Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

Indications: Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone.

Contraindications: Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with preexisting liver disease or dysfunction.

Side-Effects: Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have appeared in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly if the drug is readministered to sensitive patients, usually within forty-eight hours. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared to be definitely related to use of the drug, laboratory findings w characterized by increased direct-reacting bilirubin, eleva alkaline phosphatase levels, negative or weakly positive ceph flocculation and thymol turbidity tests, elevated serum gluta oxalacetic transaminase levels, peripheral eosinophilia, and r mal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has been reported in other patients taking prolonged courses of medication. Patients with chronic infection have been given to 2 Gm. of the drug daily for periods of two to six months, patients with rheumatic fever have taken prophylactic dose 0.5 Gm. daily for two years without difficulty. In one group 144 patients who received the drug daily for two years, no ja dice was noted. It was of interest that members of six of th patients' families, who were not taking the drug, had episc of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels w determined in a group of fifty-four adults and children who t 250 mg. of Ilosone daily for an average of sixteen months rheumatic fever prophylaxis. The results were compared w those of a similar group of forty-four patients who received p icillin. There were no cases of jaundice in either group. Elevat of SGPT and serum alkaline phosphatase levels during the cou of treatment was observed in one patient treated with Ilos and in two patients treated with penicillin. Seven other patie in the group receiving Ilosone and four others in the penici group showed elevations in one of the tests at some time dur administration of the drugs.

Very satisfactory therapeutic results, without toxicity, w reported in 102 pediatric patients who received short-term (t day) courses of Ilosone in the treatment of streptococcus in tions. Results of liver function tests in these patients were c parable to those in a similar control group who had recei penicillin.

Gastro-intestinal disturbances not associated with hepatic fects are observed in a small proportion of individuals as a re of a local stimulating effect of the medication on the aliment tract; however, the normal intestinal gram-negative bacte flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the of erythromycin, there have been occasional reports of urtica skin eruptions, and, on rare occasions, anaphylaxis.

Administration and Dosage: Ilosone is administered orally.

Ilosone Pulvules®
Ilosone Chewable Tablets
Ilosone Drops
Ilosone, 125, for Oral Suspension

For infants and for children under twenty-five pounds of b weight, the usual dosage is 5 mg. per pound every six hours; children twenty-five to fifty pounds, 125 mg. every six hou (Tablets Ilosone Chewable should be chewed or crushed swallowed with water.)

For adults and for children over fifty pounds, the usual dos of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromy therapy should be considered.

In the treatment of syphilis, the recommended total dosag 20 to 30 Gm. given in divided doses for a period of ten to fift days. Close follow-up of the patient is necessary since eryth mycin drugs have not had adequate evaluation in all stages syphilis. Examinations of spinal fluid are recommended as p of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days recommended. In the treatment of gonorrhea, patients wit suspected lesion of syphilis should have a dark-field examinat before receiving antibiotics, and monthly serologic tests sho be made for a period of three months.

How Supplied: Pulvules Ilosone, Capsules, N.F., 125 and 250 r (equivalent to base), in bottles of 24 and 100.

Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to bas in bottles of 50.

Ilosone Drops, 5 mg. (equivalent to base) per drop, in 10-c size packages, with dropper calibrated at 25 and 50 mg.

Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equival to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size packag

References: 1. Griffith, R. S., and Black, H. R.: Am. J. M. Sc., *247*:69, 19
2. Griffith, R. S., and Black, H. R.: Antibiotics & Chemother., *12*:398, 19
3. Hirsch, H. A., Pryles, C. V., and Finland, M.: Am. J. M. Sc., *239*:198, 1960

Additional information available to physicians upon request.
Eli Lilly and Company, Indianapolis, Indiana 46206.

Lil

WILLIAM TAYLOR IS BIG ON FAD DIETS.

Bill knows all the latest schemes for losing weight.

He's a big loser.

He loses time. And money. And maybe even his best chance to do something sensible about his size.

Because like most faddists, Bill isn't building new habits. He'll simply bounce back to his old routine —and with every rebound make real weight control more difficult.

That's what started Project Weight Watch.

That's what prompted preparation of research-tested scientific diets which are offered to you free. They're a realistic balance of the 4 food groups—meat, bread and cereals, fruits and vegetables and dairy foods. They're diets that you'd write yourself, if you had the time.

Send for them. Help stamp out big Bills.

Send me the Project Weight Watch kit of materials including diets.

Name

Position

Address

City

State Zip

Mail Coupon to nearest DAIRY COUNCIL:

PROJECT WEIGHT WATCH

FACTS, NOT FADS

DAIRY COUNCIL OF TIDEWATER, 3338 Cromwell Drive, Norfolk, Virginia 23509
DAIRY COUNCIL OF RICHMOND, 2112 Spencer Road, Richmond, Virginia 23230
DAIRY COUNCIL OF ROANOKE, 537 West Campbell Avenue, Roanoke, Virginia 24016
Dairy Council of Greater Metropolitan Washington, 1511 "K" Street, N.W., Washington, D.C. 20005

IRON DEFICIENCY

ANEMIA

Imferon®

(iron dextran injection)

There's as much iron . . . 250 mg. . . . in a 5 cc. ampul of Imferon (iron dextran injection) as in a pint of whole blood. When iron deficient patients are intolerant of oral iron . . . or orally administered iron proves ineffective or impractical . . . or if the patient cannot be relied upon to take oral iron as prescribed, Imferon (iron dextran injection) dependably increases hemoglobin and rapidly replenishes iron reserves. Precise dosage is easily calculated.

LAKESIDE

IN BRIEF: ACTION AND USES: A single dose of Imferon (iron dextran injection) will measurably begin to raise hemoglobin and a complete course of therapy will effectively rebuild iron reserves. The drug is indicated only for specifically-diagnosed cases of iron deficiency anemia and then only when oral administration of iron is ineffective or impractical. Such iron deficiency may include: patients in the last trimester of pregnancy; patients with gastrointestinal disease or those recovering from gastrointestinal surgery; patients with chronic bleeding with continual and extensive iron losses not rapidly replenishable with oral iron; patients intolerant of blood transfusion as a source of iron; infants with hypochromic anemia; patients who cannot be relied upon to take oral iron.

COMPOSITION: Imferon (iron dextran injection) is a well-tolerated solution of iron dextran complex providing an equivalent of 50 mg. in each cc. The solution contains 0.9% sodium chloride and has a pH of 5.2-6.0. The 10 cc. vial contains 0.5% phenol as a preservative.

ADMINISTRATION AND DOSAGE: Dosage, based upon body weight and Gm. Hb/100 cc. of blood, ranges from 0.5 cc. in infants to 5.0 cc. in adults, daily, every other day, or weekly. Initial test doses are advisable. The total iron requirement for the individual patient is readily obtainable from the dosage chart in the package insert. Deep intramuscular injection in the upper outer quadrant of the buttock, using a Z-track technique, (with displacement of the skin laterally prior to injection), insures absorption and will help avoid staining of the skin. A 2-inch needle is recommended for the adult of average size.

SIDE EFFECTS: Local and systemic side effects are few. Staining of the skin may occur. Excessive dosage, beyond the calculated need, may cause hemosiderosis. Although allergic or anaphylactoid reactions are not common, occasional severe reactions have been observed, including three fatal reactions which may have been due to Imferon (iron dextran injection). Urticaria, arthralgia, lymphadenopathy, nausea, headache and fever have occasionally been reported.

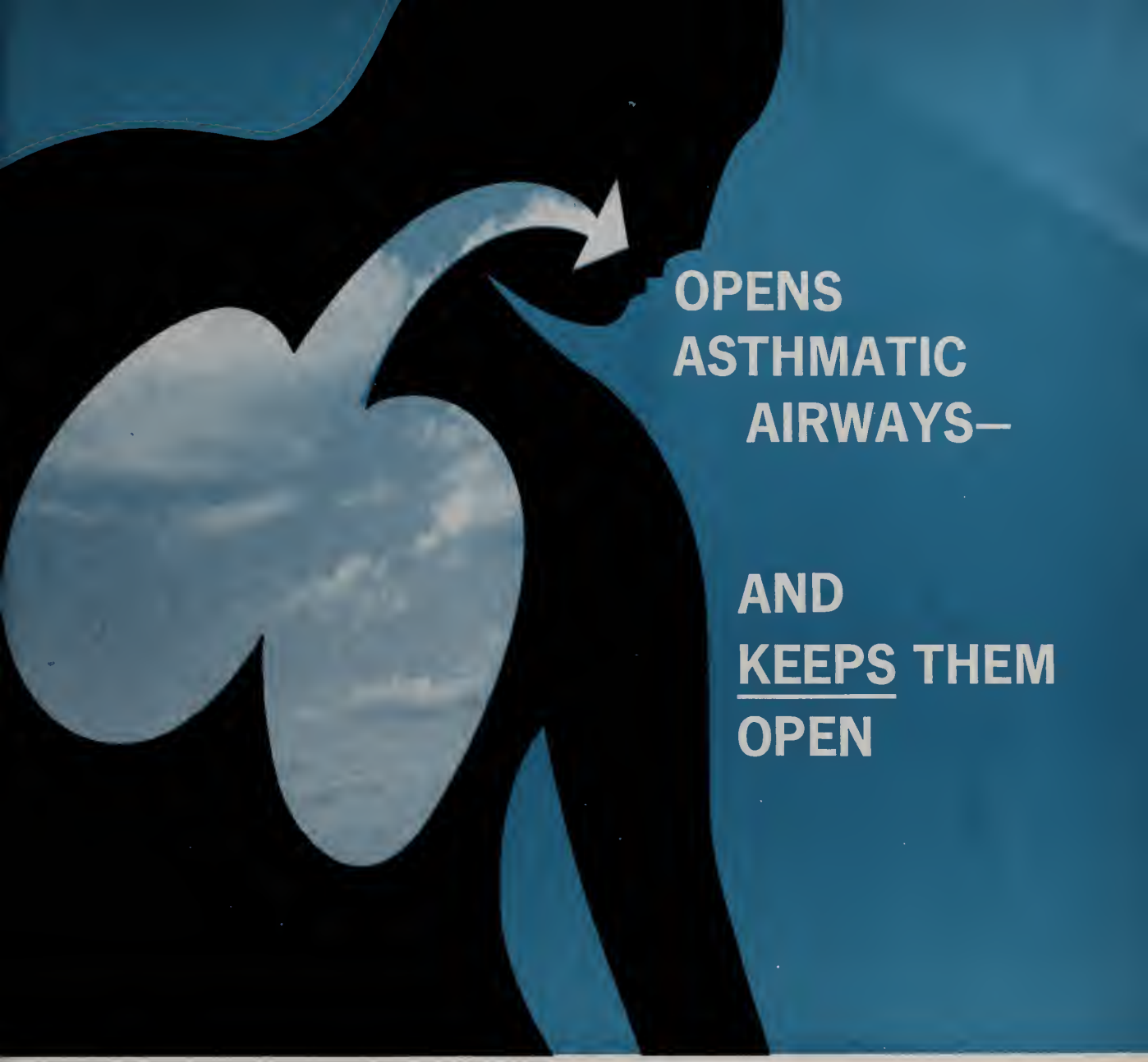
PRECAUTIONS: If sensitivity to test doses is manifested, the drug should not be given. Imferon (iron dextran injection) must be administered by deep intramuscular injection only. Inject only in the upper outer quadrant of the buttock, not in the arm or other exposed area.

CONTRAINDICATIONS: Imferon (iron dextran injection) is contraindicated in patients sensitive to iron dextran complex. Since its use is intended for the treatment of iron deficiency anemia only it is contraindicated in other anemias.

CARCINOGENICITY POTENTIAL: Using relatively massive doses, Imferon (iron dextran injection) has been shown to produce sarcoma in rats, mice and rabbits and possibly in hamsters, but not in guinea pigs. The risk of carcinogenesis, if any in man, following recommended therapy with Imferon (iron dextran injection) appears to be extremely small.

SUPPLIED: 2 cc. ampuls, boxes of 10; 5 cc. ampuls, boxes of 4, 10 cc. multiple dose vials.

LAKESIDE LABORATORIES, INC., Milwaukee, Wisconsin 53201



NUMA® DURA-TABS®

for *prolonged* aid to ventilation

Each Numa Dura-Tab provides:

theophylline	225 mg.
ephedrine HCl	50 mg.
butabarbital	25 mg.

(Warning: butabarbital may be habit-forming.)

Numa Dura-Tabs provide *prolonged* three-way action to ease breathing. Theophylline, a potent bronchodilator with minimal effect on the CNS, opens air passages and reduces bronchial spasm. Ephedrine HCl improves breathing capacity through its decongestant action. Butabarbital, a mild sedative, allays fear and apprehension.

Dosage: One Numa Dura-Tab every 8 to 12 hours helps keep the asthmatic patient symptom-free all day/all night.

Precautions: Use with caution in cardiovascular or hyperthyroid disease, severe hypertension, circulatory collapse, prostatic hypertrophy, or glaucoma.

WYNN Pharmaceuticals, Inc. Phila., Pa. 19132 • Manufacturers of QUINAGLUTE® DURA-TABS®

(Quinidine Gluconate 5 gr.)

Wounds, abscess, cellulitis

...and the complications of staph.

From time of birth, the child is exposed to a whole range of potential staph infections: wounds; secondarily infected dermatoses; primary lesions, such as deep impetigo (ecthyma), boils and felons; and more serious conditions such as osteomyelitis, staph pneumonia and staph meningitis.

Bactericidal

Hardly a staph organism can resist the bactericidal action of Prostaphlin® (sodium oxacillin), as shown by a 34-month *in vitro* study. Of all staph isolates tested, 99.5% were sensitive to oxacillin.[1]

Clinically Proven

There is a high correlation between these *in vitro* findings and clinical results. Of 610 patients treated with Prostaphlin (sodium oxacillin), 89.8% were reported cured or improved, including those with staph infections resistant to penicillin G.[2] And since resistance does not appear to develop *in vivo,* therapy with oxacillin can be extended when necessary.

Outstanding Safety Record

Besides being staph-specific and rapidly absorbed—Prostaphlin (sodium oxacillin) has established an outstanding record of safety during five years of widespread clinical use. Continuous high blood levels of oxacillin have not produced toxic effects on kidney function, assuring a significant margin of safety. However, as with all penicillins, the possibility of allergic response should be considered.

Capsules, Oral Suspension and Injectable

Prostaphlin (sodium oxacillin) is available in three flexible dosage forms to suit the age of the patient and severity of infection—an oral solution for pediatric use, capsules, and multi-dose vials for injection.

Staph reliably controlled with specific therapy

A suitable dosage form for every staph situation

PRESCRIBING INFORMATION: For complete information, consult Official Package Circular. *Indications:* Infections caused by Staphylococci, particularly those due to penicillin G-resistant Staphylococci. *Contraindications:* A history of severe allergic reactions to penicillin. *Precautions:* Typical penicillin-allergic reactions may occur. Safety for use in pregnancy and premature infants is not established. Because of limited experience, use cautiously and evaluate organ system function frequently in neonates. Mycotic or bacterial superinfections may occur. Assess renal, hematopoietic and hepatic function intermittently during long-term therapy. *Adverse Reactions:* Skin rashes, pruritus, urticaria, eosinophilia, nausea, vomiting, diarrhea, fever and occasional anaphylaxis. Rare cases of reversible hepatocellular dysfunction have occurred. Moderate SGOT elevations have been noted. Thrombophlebitis has occurred occasionally during intravenous therapy and leukopenia was noted in two cases. *Usual Oral Dosage:* Adults: 500 mg. *q.* 4 or *q.* 6 *h.* Children: 50 mg./Kg./day. *Usual Parenteral Dosage:* Adults: 250-500 mg. *q.* 4 or *q.* 6 *h.* Children: 50 mg./Kg./day. Treat beta-hemolytic streptococcal infections for at least 10 days. Give oral drug 1 to 2 hours before meals. *Supplied:* Capsules—250 and 500 mg. in bottles of 48. Injectable—250 mg., 500 mg., and 1 Gm. dry filled vial for I.M./I.V. use. For Oral Solution—100 ml. bottle, 250 mg./5 ml. when reconstituted. **A.H.F.S. CATEGORY 8:12.16**

References: 1. Abstracted from *Antibiotic Sensitivity of Staphylococci Studied from November 1962 through August 1965,* reported by Griffith, L.J., Staphylococcus Reference Laboratory, V.A. Hospital, Batavia, N.Y. 2. Data on file, Bristol Laboratories.

BRISTOL

BRISTOL LABORATORIES/Division of Bristol-Myers Co., Syracuse, N.Y.

Whenever you suspect staph PROSTAPHLIN®

SODIUM OXACILLIN

Since 1880

Service with Satisfaction

THE WILLIAMS PRINTING COMPANY

RICHMOND, VIRGINIA 23219

INDEX TO ADVERTISERS

Abbott Laboratories ---- 18-20
American Medical Association ---- 54
Ames ---- 34
Appalachian Hall ---- 42
Bayberry Psychiatric Hospital ---- 49
Blue Cross-Blue Shield ---- 35
Boar's Head Inn ---- 10
Bristol ---- 62-63
Burroughs Wellcome & Co. ---- 67
Coca-Cola ---- 10
Dyer, David A., Insurance ---- 8-9
Eli Lilly and Co. ---- 12-13, 36, 44-46, 56-58
Geigy ---- 22-23, 28-30
Gill Memorial ---- 48
Highland Hospital ---- 49
Hynson, Westcott & Dunning, Inc. ---- 3
Jefferson, A. G. ---- 47
Johnston-Willis Hospital ---- 48
Jones and Vaughan ---- 7
Lakeside Laboratories ---- 15, 31, 37, 60
Lederle Laboratories ---- 55, 68-Inside Back Cover
Wm. S. Merrell Company ---- 16-17
National Dairy Council ---- 59
Parke, Davis & Company ---- Second Cover
Peoples Service Drug Stores ---- 14
Pitman-Moore ---- 41
Plyler's Nursing Home, Mrs. ---- 47
Poythress, William P. & Co. ---- 20, 65
Richmond Eye Hospital—Richmond Ear, Nose and Throat Hospital ---- 39
Riverside Convalescent Home ---- 48
Robins, A. H. ---- 43
Roche Laboratories ---- Back Cover
Rorer, Wiliam H., Inc. ---- 6, 22
Saint Albans Psychiatric Hospital ---- 42
Sandoz Pharmaceuticals ---- 24-25
Searle, G. D. & Co. ---- 26-27
Smith Kline & French ---- 11
South Boston Convalescent Home ---- 47
St. Elizabeth's Hospital ---- 40
St. Luke's Hospital ---- 38
Stuart Company ---- 5
Stuart Circle Hospital ---- 40
Syntex Laboratories ---- 50-53
Terrace Hill Nursing Home ---- 38
Tucker Hospital, Inc. ---- 39
U. S. Treasury Bonds ---- 66
Valentine Company, Inc. ---- 65
Williams Printing Co. ---- 64
Wyeth Laboratories ---- 32-33
Wynn Pharmaceuticals ---- 21, 61

Whenever the diet is faulty, the appetite poor, or the loss of food is excessive

through vomiting or diarrhea—

Valentine's
MEAT EXTRACT

stimulates the appetite,

increases the flow of digestive juices,

provides: supplementary amounts of vitamins, minerals and soluble proteins,

extra-dietary vitamin B_{12},

protective quantities of potassium, in a palatable and readily assimilated form.

Supplied in bottles of 2 or 6 fluidounces.

DOSAGE *is 1 teaspoonful two or three times daily; two or three times this amount for potassium therapy. Dilute with two or more equal volumes of water.*

VALENTINE Company, Inc.
RICHMOND 21, VIRGINIA

mudrane®

for

- EMPHYSEMA
- ASTHMA
- CHRONIC BRONCHITIS
- BRONCHIECTASIS

The fast-disintegrating uncoated tablet gives relief in 15 minutes

Each tablet contains:

Potassium Iodide	195 mg.
Aminophylline	130 mg.
Phenobarbital, Caution: May be habit forming	21 mg.
Ephedrine HCl	16 mg.

FEDERAL LAW PROHIBITS DISPENSING WITHOUT PRESCRIPTION

Precautions: Usual for aminophylline-ephedrine-phenobarbital. Iodides may cause nausea, long use may cause goiter. Discontinue if symptoms of iodism develop.

Iodide contraindications: tuberculosis, pregnancy.

DOSAGE

One tablet, with full glass of water, 3 or 4 times daily.

Dispensed in bottles of 100 and 1000 tablets.

MUDRANE GG—Formula, dosage and package identical to Mudrane—*except*—100 mg. glyceryl guaiacolate replaces the potassium iodide. The value of Mudrane cannot be enjoyed by a small group in which K.I. is contraindicated. Mudrane GG is prepared for this group.

MUDRANE GG ELIXIR—Four 5 cc teaspoonfuls is equivalent to one Mudrane GG tablet. Dosage adjusted to age and weight of child. Mudrane GG Elixir is for pediatric patients and those who think they cannot swallow tablets. Dispensed in pint and half gallon bottles.

WM. P. POYTHRESS & CO., INC.
RICHMOND, VIRGINIA 23217
Manufacturers of ethical pharmaceuticals since 1856

Buy Bonds where you work.

They do.

They move out from the landing area and toward their work. It's a tense job, defending freedom. It takes brave men to do it well. These men are brave — and farsighted. A majority of all our servicemen in Vietnam save for the future and support freedom through regular purchase of U.S. Savings Bonds. Should you join them? Buy Savings Bonds where you bank or work.

Freedom Shares – new plan for Americans who want to help their country.

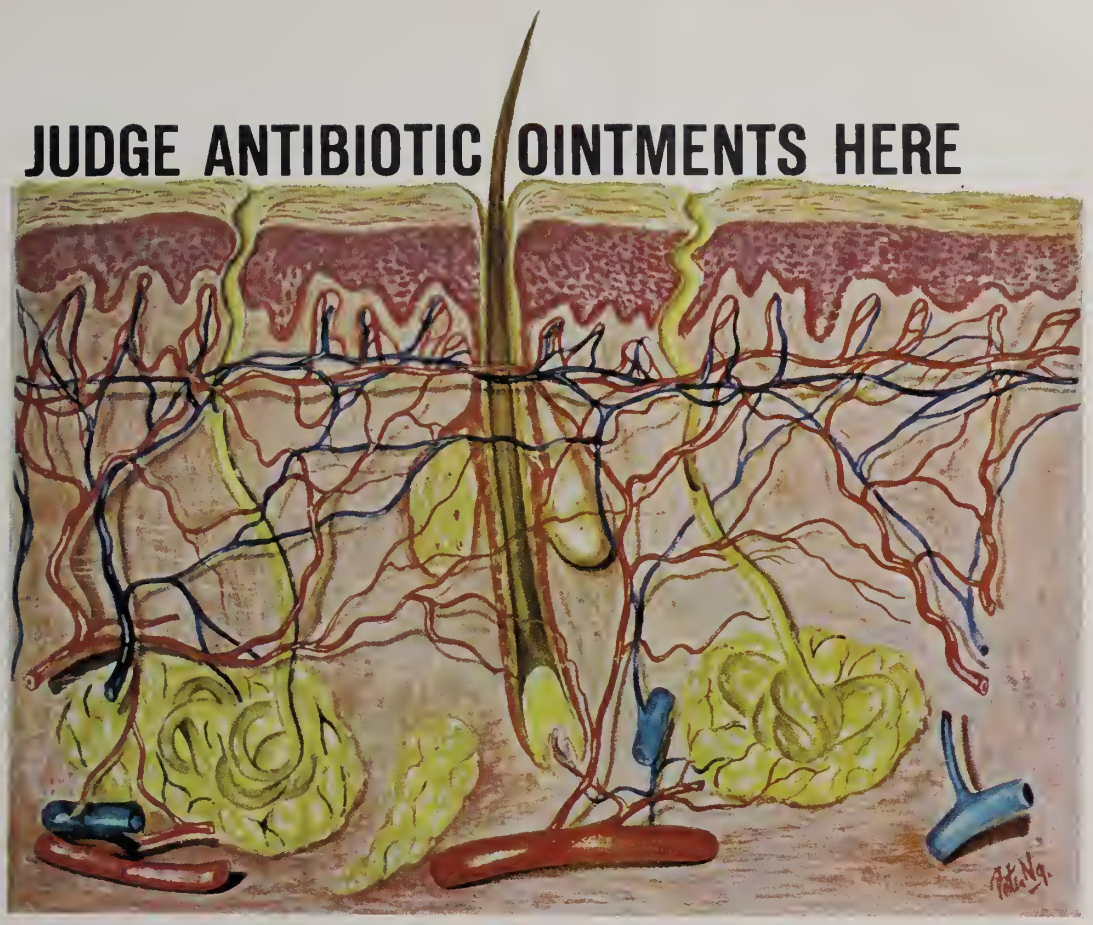
Now, when you join the Payroll Savings Plan or the Bond-a-Month Plan, you are eligible to purchase the new type U.S. Savings Notes — Freedom Shares — as a bonus opportunity. Freedom Shares pay 4.74% when held to maturity of just four-and-a-half years (redeemable after one year), are available on a one-for-one basis with Savings Bonds. Get the facts where you work or bank.

Join up. America needs your help.

U.S. Savings Bonds/
New Freedom Shares

The U.S. Government does not pay for this advertisement. It is presented as a public service in cooperation with the Treasury Department and The Advertising Council.

JUDGE ANTIBIOTIC OINTMENTS HERE



Results on skin are final proof of any topical antibiotic's effectiveness

No in vitro test can duplicate a clinical situation on living skin. 'Neosporin' (polymyxin B—bacitracin—neomycin) Ointment has consistently proven its effectiveness in thousands of cases of bacterial skin infection. The spectra of the three antibiotics overlap in such a way as to provide bactericidal action against most pathogenic bacteria likely to be found topically. Diffusion of the antibiotics from the special petrolatum base is rapid since they are insoluble in the petrolatum, but readily soluble in tissue fluids. The Ointment is bland and nonirritating.

Caution: As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

Contraindications: This product is contraindicated in those individuals who have shown hypersensitivity to any of its components.

Supplied: Tubes of 1 oz., ½ oz. with applicator tip, and ⅛ oz. with ophthalmic tip.

Complete literature available on request from Professional Services Dept. PML.

'NEOSPORIN'®

brand

POLYMYXIN B-BACITRACIN-NEOMYCIN OINTMENT

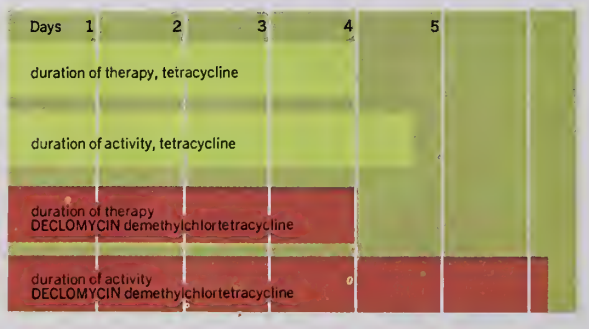
BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N.Y.

why wonder about a drug

when you know

DECLOMYCIN®
DEMETHYLCHLORTETRACYCLINE

produces 1-2 "extra" days' activity



1-2 "extra" days' activity
after the last dose to protect against relapse

one 300 mg tablet b.i.d.
or
one 150 mg capsule q.i.d.

Effective in a wide range of everyday infections—respiratory, urinary tract and others—in the young and aged—the acutely or chronically ill—when the offending organisms are tetracycline-sensitive.

Contraindication—History of hypersensitivity to demethylchlortetracycline.

Warning—In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort.

Precautions and Side Effects—Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

Capsules: 150 mg; *Tablets:* film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

419-6—4075

Lederle

For he's a jolly good fellow

But what does he think?

Many overweight patients can benefit from the appetite control provided by the sustained anorexigenic-tranquilizing action of BAMADEX SEQUELS: anorexigenic action of amphetamine; tranquilizing action of meprobamate; prolonged action through sustained release of active ingredients.

Bamadex® Sequels®

DEXTRO-AMPHETAMINE SULFATE (15 mg.) WITH MEPROBAMATE (300 mg.) SUSTAINED RELEASE CAPSULES

to help establish a new dietary pattern

Contraindications: Dextro-amphetamine sulfate: in hyperexcitability and in agitated prepsychotic states. Previous allergic or idiosyncratic reactions to meprobamate.

Precautions: Use with caution in patients hypersensitive to sympathamimetic compounds, who have coranary ar cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reparted to result in dependence on the drug. Where excessive dosage has cantinued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence af preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone ta excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.

Dextro-amphetamine sulfate: Insamnia, excitability, and increased motor activity are common and ordinarily mild side effects. Canfusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may fallow central stimulation. Other effects may include dry mauth, anorexia, nausea, vomiting, diarrhea, and increased cardiavascular reactivity.

Meprobamate: Drowsiness may accur and can be associated with ataxia; the symptam can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculapapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case af fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneuratic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

Lederle

LEDERLE LABORATORIES
A Division of American Cyanamid Company,
Pearl River, New York

695-6

For the tense patient 1 tab.

t.i.d.

who can't sleep

h.s.

remember the
extra tablet at bedtime

Valium
(diazepam)
Roche®

Before prescribing, please consult complete product information, a summary of which follows:
Contraindications: Infants, patients with history of convulsive disorders or glaucoma.
Warning: Not of value in the treatment of psychotic patients, and should not be employed in lieu of appropriate treatment.
Precautions: Limit dosage to smallest effective amount in elderly patients (not more than 1 mg, one or two times daily) to preclude ataxia or oversedation. Advise patients against possibly hazardous procedures until correct maintenance dosage is established; driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. Warn patients of possible combined effects with alcohol. Safe use in pregnancy not established. Observe usual precautions in impaired renal or hepatic function and in patients who may be suicidal; periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

Side Effects: Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances, hallucinations); changes in EEG patterns. Abrupt cessation after prolonged overdosage may produce withdrawal symptoms similar to those seen with barbiturates, meprobamate and chlordiazepoxide HCl.
Dosage—Adults: Mild to moderate psychoneurotic reactions, 2 to 5 mg b.i.d. or t.i.d.; severe psychoneurotic reactions, 5 to 10 mg t.i.d. or q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; muscle spasm with cerebral palsy or athetosis, 2 to 10 mg t.i.d. or q.i.d. Geriatric patients: 1 or 2 mg/day initially, increase gradually as needed.
Supplied: Tablets, 2 mg, 5 mg and 10 mg; bottles of 50 for convenience and economy in prescribing.

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, N.J. 07110

MAR 1970
WESBY